Worldwide Leader Since 1911 for Positive Displacement Pumping Solutions for Industrial, OEM, and Sanitary Applications.
Most pump companies talk about being innovative, but Viking has been the industry innovator since its initial introduction of the ‘gear-within-a-gear’ design back in 1911. Here are a few examples of proven industry leading engineering capabilities.

- Nearly a century of service to industry
- Problem-solving from water to virtually any liquid
- Extensive engineering lab
- Broad range of positive displacement pumps to handle your application
- Pumps that accept industry standard seals
- Pumps with sealless design
- Pumps designed for abrasives
- Pumps with integrally cast jacketing
- Custom pump solutions offered beyond standard offering
- 11 active patents held

Six manufacturing centers around the globe provide world class solutions for precision fluid handling.

- Viking pumps are found in nearly 200 countries
- More than 245 authorized, stocking distributors
- Multi-million dollar point-of-sale inventory strategically located globally, backed by factory inventory
- Vertically integrated manufacturing with captive foundries
- Every pump tested before shipping
- ISO9001 and ISO14001 certified
- Longest warranty program in the industry
Focusing on Your Applications

Put Viking Pump’s Experience to Work for You

We have documented experience on thousands of liquids that allow us to deliver proven solutions matched to your application.

- Thin to semi-solid (solvent to caulk ing compound)
- 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)

We’re Familiar with Your Industry

What’s Your Application?

Viking has the experience and product options to solve your fluid handling challenges. You have a choice of application specific products and positive displacement technologies including:

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

Accessories like:

- Helical gear reducers
- Power load monitor
- Basket strainers
- Pump systems

For examples of the industries and applications we are familiar with, refer to pages 4-9.
Chemicals
Markets and Applications Served in the Chemical Industry

- Plastics / Resins / Rubbers
- Petrochemicals
- Polyurethane Foam Products
- Paint and Applied Products
- Personal Care Products
- Soaps and Cleaning Compounds
- Ethyl Alcohol Manufacturing
- Other Basic Inorganic Chemicals
- Printing Inks
- Synthetic Dyes and Pigments
- Other Basic Organic Chemicals
- Plastic and Rubber Products
- Drugs / Pharmaceutical
- Chemicals and Allied Products Wholesaling
- Explosives
- All Other Chemicals
Food Processing

Markets and Applications Served in the Food Processing Industry

Grain and Oilseed
Other Food
Chocolate and Confectionery
Animal Food
Sugar
Beverage
Animal Slaughtering / Processing
Dairy Products
Refined Petroleum & Coal
Markets and Applications Served in the Refined Petroleum & Coal Industries

- Asphalt Paving Mixtures
- Oil and Gas Extraction
- Lubricating Oil and Grease Manufacturing
- Roofing Products
- Petroleum Refineries
- Petroleum, LPG, and CNG Distribution
- Other Petroleum and Coal Products

Asphalt Paving Mixtures
Lubricating Oil & Grease Manufacturing
Roofing Products
Petroleum Refineries
Other Petroleum and Coal Products
Machinery
Markets and Applications Served in the Machinery Industry

- Engine and Turbine Manufacturing
- Commercial Cooking Machinery
- Pumps and Compressor Manufacturers
- Non-Electrical Machinery
- Construction / Mining / Material Handling Equipment
- Special Industry Machinery
- Construction
- Semiconductor Machinery Manufacturing
- Machine Tools
- Farm Machinery
- Packaging Machinery
- Printing Machinery
- Medical Equipment
- Other Machinery
Transportation
Markets and Applications Served in the Transportation Industry

Railroad Equipment
Automotive
Military
Truck
Pipelines
Aircraft Equipment
Other Transportation
Markets and Applications Served in Other Industries

- Pulp / Paper / Allied Products
- Industrial Equipment and Supply Wholesalers
- Utilities
- Industrial Refrigeration Equipment
- Mining
- Heating Equipment
- Printing and Publishing
- Metals
- Fabricated Metal Product
- Textile Manufacturing
- Other Miscellaneous Manufacturing
- Wastewater Treatment
- Water Treatment / Conditioning
- Measuring and Controlling Devices
- Electronics / Electrical Equipment
General purpose gear pumps are well-suited for low-pressure transfer of lubricating fluids with moderate viscosities. For everything else, Viking's heavy-duty pumps offer a spectrum of options to match the pump to the application. These options can help reduce life cycle cost by minimizing corrosion and abrasive wear, by improving lubrication, and by minimizing leakage at shaft seals; reducing downtime, maintenance, and extending pump life.

Viking's heavy-duty gear pumps are versatile and rugged. They can be configured and tuned to the application and the fluid pumped, through use of specific materials of construction, setting of clearances and other optional features.

The table on page 11 lists some of the constructions and features offered.

**ACCESSORIES (PAGES 28 - 31)**
- Lid-Ease Strainer (Page 28)
- Duplex Fuel Oil Sets (Page 29)
- Gear Reducers - Helical Offset and In-Line (Page 30)
- Drives (Page 31)

**SEALING**
The single most common cause of downtime is seal leakage. To keep pumps running, Viking offers these sealing options:
- Packing
- Single mechanical seals
- Double mechanical seals
- Triple lip seals
- Cartridge seals
- Sealless Mag Drive

**CORROSION**
To handle corrosive fluids, Viking offers various alloys, composites, and elastomers, including:
- 316 Stainless Steel
- 316 L Stainless Steel
- 316 Ti Stainless Steel
- Alloy C
- Alloy 20
- Monel
- Bronze
- ETFE

**TEMPERATURE**
For extreme temperature applications (hot or cold), Viking offers:
- Metals
- Seals
- Jacketing
- Temperature Probes

**STANDARDS**
Many Viking products meet industry standards for certifications such as UL, NSF, ANSI, ATEX and CE

**ABRASION**
To combat the effect 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

**PORTING**
To accommodate various piping systems, Viking's heavy-duty pumps offer a variety of port orientation and configuration options, including:
- 90° and 180° ports
- Tapped ports
- ANSI, DIN and JIS compatible flanges
- Flat and raised face flanges
- Oversized ports
- Top, bottom, or side suction/discharge
## Pumping Principle

**Internal Gear**
- Heavy Duty
- Sealless
- Special Purpose

**External Gear**
- Metal
- Composite

**Vane**
- Spur Gear
- Non-Metallic Mag Drive
- VICORR

**Lobe**
- Rotary
- Stainless Steel Lobe
- Industrial Lobe
- Custom Solutions

### Performance

<table>
<thead>
<tr>
<th>Category</th>
<th>Universal Seal</th>
<th>Motor Speed</th>
<th>Motor Speed (Metric)</th>
<th>Viking Mag Drive</th>
<th>Abrasive Liquids</th>
<th>Thin, Volatile Liquids</th>
<th>Asphalt</th>
<th>General Purpose</th>
<th>Spur Gear</th>
<th>Non-Metallic Mag Drive</th>
<th>VICORR</th>
<th>Rotary Vane</th>
<th>Stainless Steel Lobe</th>
<th>Industrial Lobe</th>
<th>Custom Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Capacity, M³/Hr</td>
<td>360</td>
<td>17</td>
<td>45</td>
<td>114</td>
<td>36</td>
<td>21</td>
<td>360</td>
<td>102</td>
<td>7.2</td>
<td>4.5</td>
<td>7.2</td>
<td>36</td>
<td>230</td>
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<td>75</td>
<td>200</td>
<td>500</td>
<td>160</td>
<td>95</td>
<td>1,600</td>
<td>450</td>
<td>32</td>
<td>20</td>
<td>32</td>
<td>160</td>
<td>1,014</td>
<td>820</td>
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<td>606</td>
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<td>17</td>
<td>14</td>
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<td>7</td>
<td>14</td>
<td>17</td>
<td>34</td>
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<td>14</td>
<td>15</td>
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<td>Max. Pressure, PSI</td>
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<td>250</td>
<td>200</td>
<td>150</td>
<td>100</td>
<td>200</td>
<td>250</td>
<td>500</td>
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<td>500</td>
<td>200</td>
<td>215</td>
<td>400</td>
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<td>22,000</td>
<td>55,000</td>
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<td>+350</td>
<td>+300</td>
<td>+500</td>
<td>+450</td>
<td>-40 to +225</td>
<td>+700</td>
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<td>+150</td>
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<td>+500</td>
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### Sizes

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<th>6</th>
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<th>17</th>
<th>23</th>
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<th>4</th>
<th>6</th>
<th>15</th>
<th>3</th>
<th>1000+</th>
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</table>

### Casing Material

- Cast Iron
- Ductile Iron
- Steel
- Stainless Steel
- Composite
- Alloy C, Alloy 20 & Others

### Sealing

- Packing
- Lip Seal
- Component Mechanical Seal
- Cartridge Mechanical Seal
- Cartridge Triple Lip Seal
- Sealless Mag Drive
- O-Ring

### Options

- Jacketed (head/bracket)
- Fully Jacketed (casing/bracket)

### Ports

- Opposite (180°)
- Right Angle (90°)
- Same Side (360°)
- Flanged
- NPT

### Mounting

- Foot Mount
- Flange Mount (Close-Coupled)
- Vertical In-Line

### Applications

- High Temperature
- Abrasives
- Corrosives
- High Viscosity
- Medium Viscosity
- Low Viscosity

* Maximum temperature with special construction
Viking’s flagship series of industrial-duty internal gear pumps, designed to accommodate virtually all seals. Proven design provides superior flexibility to adapt to the most challenging applications.

CUSTOMER BENEFITS
- Pumps accommodate virtually all sealing types and manufacturers
- Industry leading selection of application specific material options to maximize pump life
- 16 sizes offer unmatched hydraulic coverage
- Design adaptability for an unequaled range of viscosities and temperatures
- Easy clearance adjustment to maintain high efficiency
- Simple design with only two moving parts
- Back pull-out seals
- No special tools required for service
- One-piece, rigid cast bracket minimizes shaft deflection and tolerance stackup
- Rugged design with heavy-duty bearings extends pump life
- Proven success beyond catalog ratings with special construction and factory approval
- Industry standard for chemicals, polymers, petroleum, and thousands of other liquids

MATERIALS
- Cast Iron
- Ductile Iron
- Steel
- Stainless Steel
- Alloy C, Alloy 20, and others
- Hard Materials

SEALING
- Packing
- Component Mechanical Seal
- Cartridge Mechanical Seal
- Cartridge Triple Lip Seal

PORTS
- Opposite (180°) (Rotatable Casing)
- Right Angle (90°) (Rotatable Casing)
- NPT
- Flanged (ANSI or DIN)
- Custom

MOUNTING
- Foot Mount
- Direct Mount

DRIVES
- See chart on page 31 for drive options

APPLICATIONS
- Application examples are available on Pages 4 - 9.

PERFORMANCE

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
<th>**Maximum Pressure</th>
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<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>M³/Hr GPM RPM BAR PSI</td>
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<td>2 8</td>
<td>1,750</td>
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<tr>
<td>H</td>
<td>1.5</td>
<td>3 15</td>
<td>1,150</td>
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<td></td>
</tr>
<tr>
<td>HL</td>
<td>2.0</td>
<td>11 50</td>
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<td>AL ①</td>
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<td>11 50</td>
<td>780</td>
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<td>K</td>
<td>2.0</td>
<td>11 50</td>
<td>780</td>
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</tr>
<tr>
<td>AK ①</td>
<td>2.0</td>
<td>11 50</td>
<td>780</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>2.5</td>
<td>11 50</td>
<td>780</td>
<td></td>
<td></td>
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<tr>
<td>LL</td>
<td>3.0</td>
<td>32 140</td>
<td>520</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS</td>
<td>4.0</td>
<td>45 200</td>
<td>640</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>4.0</td>
<td>68 300</td>
<td>520</td>
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<td></td>
</tr>
<tr>
<td>QS</td>
<td>6.0</td>
<td>114 500</td>
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<tr>
<td>N</td>
<td>8.0</td>
<td>136 600</td>
<td>350</td>
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<tr>
<td>R</td>
<td>8.0</td>
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<td>280</td>
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<tr>
<td>RS</td>
<td>10.0</td>
<td>365 1,600</td>
<td>280</td>
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<tr>
<td>F ①</td>
<td>0.5</td>
<td>0.3 1.5</td>
<td>1800</td>
<td>28 400</td>
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<td>FH ①</td>
<td>0.75</td>
<td>0.7 3</td>
<td>1200</td>
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<td>1.0</td>
<td>1 5</td>
<td>1150</td>
<td></td>
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</tr>
<tr>
<td>H</td>
<td>1.5</td>
<td>2 10</td>
<td>1150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HL</td>
<td>2.0</td>
<td>11 50</td>
<td>520</td>
<td>10.0 150</td>
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<td>K</td>
<td>2.0</td>
<td>11 50</td>
<td>520</td>
<td>10.0 150</td>
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</tr>
<tr>
<td>AK ①</td>
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<td>11 50</td>
<td>520</td>
<td>10.0 150</td>
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</tr>
<tr>
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</tr>
<tr>
<td>LL</td>
<td>3.0</td>
<td>25 110</td>
<td>420</td>
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</tr>
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<td>LS</td>
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<td>36 160</td>
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<td>Q</td>
<td>4.0</td>
<td>71 310</td>
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</tr>
<tr>
<td>QS</td>
<td>6.0</td>
<td>138 600</td>
<td>350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>8.0</td>
<td>200 1,100</td>
<td>280</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>8.0</td>
<td>365 1,600</td>
<td>280</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS</td>
<td>10.0</td>
<td>365 1,600</td>
<td>280</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Integral relief valve is standard.
① Not a Universal Seal bracket design. Considered Heavy Duty design.

** Maximum Pressure available with factory approval

UNIVERSAL SEAL SERIES
Industrial-Duty Pumps Offering Design Flexibility and Easy-Maintenance

CAPACITY
To 380 M³/Hr (To 1,600 GPM)

PRESSURE
To 14 BAR (To 200 PSI) **

VISCOSITY
To > 1,000,000 cSt (To 4,500,000 SSU)*

TEMPERATURE
-54°C to +371°C (-120°F to +700°F)*
- Special construction required.
** Higher pressures available with factory approval

CAST IRON - DUCTILE IRON - STEEL

STAINLESS STEEL
JACKETED UNIVERSAL SEAL PUMPS

Temperature Controlled Industrial-Duty Pumps

With all of the features and benefits of the Universal Seal series, these pumps offer a variety of jacketing options to easily handle fluids that require either heating or cooling. Standard jacketed pumps feature a jacketed head and bracket, ideal for applications like asphalt and chocolate. Fully-jacketed pumps add jacketed casing and flange areas, providing uniform temperature control for critical processes like ABS, epoxy, and PET resins.

CUSTOMER BENEFITS

- Jacketing options available for all critical areas of pump including bracket, seal, casing, flanges, head and relief valve
- Large available jacketing areas allow rapid heating and cooling capabilities for faster startup
- Allows a variety of heating or cooling media including hot oil, steam, and water
- Variety of jacket connection options including tapped and flange
- Multiple jacket connection locations allow for easier piping
- Clearances optimized for maximum efficiency
- Numerous porting positions, configurations and sizes provide enhanced application flexibility
- Proven uniform temperature control for improved product consistency

MATERIALS

- Cast Iron
- Ductile Iron
- Steel
- Stainless Steel
- Alloy C, Alloy 20, and others
- Hard material options available for abrasive liquids

SEALING

- Packing
- Component Mechanical Seal
- Cartridge Mechanical Seal
- Cartridge Triple Lip Seal

PORTS

- Opposite (180°) (Rotatable Casing)
- Right Angle (90°) (Rotatable Casing)
- NPT
- Flanged (ANSI or DIN)
- Custom

MOUNTING

- Foot Mount
- Direct Mount

DRIVES

- See chart on page 31 for drive options

APPLICATIONS

- Application examples are available on Pages 4 – 9.
**MOTOR SPEED PUMPS**

**Compact, Heavy-Duty Pumps for Clean, Less Viscous Liquids**

Higher speed operation allows use of smaller pumps. Direct drive design eliminates need for speed reduction, resulting in a more compact footprint. Delivers higher pressures on thin liquids like solvents, fuels, and lube oils. Component mechanical seals are standard.

**CUSTOMER BENEFITS**

- Motor speed operation reduces total cost of ownership by eliminating speed reduction equipment
- Heavy-Duty antifriction bearing shaft support for higher pressure and extended pump life
- Pressure lubrication system automatically lubricates the idler bushing, increasing pump life
- Space-saving, mounting configurations available to better match your installation needs:
  - Foot Mount
  - Motor Mount (Close-Coupled NEMA and IEC)
  - Vertical or Horizontal Inline Mount
- Precision thrust control mechanism allows adjustments for accurate rotor positioning, optimizing pump efficiency throughout life cycle

**MATERIALS**

- Cast Iron
- Steel
- Stainless Steel
- Alloy C, Alloy 20, and others

**SEALING**

- Component Mechanical Seal

**PORTS**

- Opposite (180°)
- Flanged

**MOUNTING**

- Foot Mount
- Motor Mount (Close-Coupled)
- Vertical or Horizontal Inline Mount

**DRIVES**

- See chart on page 31 for drive options

**APPLICATIONS**

- Application examples are available on Pages 4 - 9.

**PERFORMANCE**

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>GG</td>
<td>1.0</td>
<td>2 M³/Hr (To 75 GPM)</td>
<td>1,800 RPM</td>
<td>17 BAR 250 PSI</td>
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<tr>
<td>HJ</td>
<td>1.5</td>
<td>5 M³/Hr (To 200 GPM)</td>
<td>1,800 RPM</td>
<td>17 BAR 250 PSI</td>
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<tr>
<td>HL</td>
<td>2.5</td>
<td>8 M³/Hr (To 350 GPM)</td>
<td>1,200 RPM</td>
<td>17 BAR 250 PSI</td>
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<td>AS</td>
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<td>11 M³/Hr (To 500 GPM)</td>
<td>1,200 RPM</td>
<td>17 BAR 250 PSI</td>
</tr>
</tbody>
</table>

Integral relief valve is standard.

**CAPACITY**

To 17 M³/Hr (To 75 GPM)

**PRESSURE**

To 17 BAR (To 250 PSI) *

**VISCOSITY**

0.1 to 5,500 cSt (28 to 25,000 SSU)

**TEMPERATURE**

-40°C to +177°C (-40°F to +350°F)

* Higher pressures available with optional construction materials
**MOTOR SPEED PUMPS (Metric)**

Compact, Metric Heavy-Duty Pump for Clean, Less Viscous Liquids

Metric design pump available with close-coupled IEC motor mount or foot mount. It offers motor speed operation to eliminate the speed reducer, which reduces overall system cost and space required, while offering relatively high-viscosity capabilities. A wide variety of component mechanical seals are available.

### CUSTOMER BENEFITS

- Compact, close-couple design reduces total cost of ownership by eliminating speed reduction equipment
- Patented root feed groove and advanced gear geometry optimizes high speed operation
- Precision thrust control mechanism allows adjustments for accurate rotor positioning, optimizing pump efficiency throughout life cycle
- Robust, large diameter shaft design minimizes shaft deflection, extending mechanical seal life
- Space-saving mounting configurations available to better match your installation needs:
  - Foot Mount
  - IEC Motor Mount (Close-Coupled)
- DIN seal chamber accepts a wide range of seal options to better match your application requirements

### MATERIALS

- Ductile Iron

### SEALING

- Component Mechanical Seal

### PORTS

- Opposite (180°)
- Flanged

### MOUNTING

- Foot Mount
- IEC Motor Mount (Close-Coupled)

### DRIVES

- See chart on page 31 for drive options

### APPLICATIONS

- Application examples are available on Pages 4 - 9.

### PERFORMANCE

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
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<tbody>
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<td>HLE 40</td>
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<td>ALE 21</td>
<td>9</td>
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<td>KE 80</td>
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<tr>
<td>LQE 100</td>
<td>45</td>
<td>200</td>
<td>970</td>
<td></td>
</tr>
</tbody>
</table>

Integral relief valve is standard.

- **CAPACITY**
  - To 45 M³/Hr (To 200 GPM)

- **PRESSURE**
  - To 17 BAR (To 250 PSI) *

- **VISCOITY**
  - To 22,000 cSt (To 100,000 SSU)

- **TEMPERATURE** *
  - -29°C to +150°C (-20°F to +300°F)

* Higher pressures available with optional construction materials.
Magnetically driven pumps eliminate the need for mechanical shaft seals. Designed for transferring hazardous, hard-to-seal, or expensive liquids, these pumps eliminate the high cost associated with complex seals and auxiliary equipment. These pumps are ideal for applications like caustics, isocyanates, adhesives, solvents, and mercaptans.

**CUSTOMER BENEFITS**

- Proven internal gear design provides superior flexibility to the most challenging applications where shaft sealing is crucial
- Wide flow range to better match application requirements
- Pump design offers ANSI or DIN flanges, and IEC or NEMA motor mounts conform to international standards for enhanced application flexibility
- Short-term run-dry capabilities provide for line clearing or empty tank situations without damaging pump
- Robust design includes optimized bearing placement to extend pressure capabilities (14 Bar/200 PSI)
- Innovative thrust control design provides superior pump performance
- Space-saving mounting configurations available to better match your installation needs:
  - Close coupled to NEMA or IEC flange for motor speed operation
  - Bearing carrier design available for applications requiring speed reducers
- Casing and canister drains facilitate liquid capture during servicing
- ATEX conformity

**MATERIALS**

- Cast Iron
- Steel
- Stainless Steel

**SEALING**

- Sealless Mag Drive

**OPTIONS**

- Jacketed (head and bracket)
- Fully-Jacketed (casing, head and bracket)

**PORTS**

- Opposite (180°)
- Right Angle (90°)
- Flanged
- (ANSI B16.5-compatible or DIN 2501-compatible)
- NPT

**MOUNTING**

- Foot Mount
- Motor Mount (close-coupled)

**DRIVES**

- See chart on page 31 for drive options

**APPLICATIONS**

- Application examples are available on Pages 4 - 9.
**ABRASIVE LIQUID PUMPS**

**Industrial-Duty Pumps for Abrasive Liquids**

This pump is equipped with tungsten carbide wear parts and silicon carbide mechanical seal faces, extending service life and reducing total cost of ownership.

**CUSTOMER BENEFITS**
- Extended service life and lower overall cost of ownership provided by:
  - Solid, tungsten carbide components in critical wear areas of pump
  - Other hardened component options available
  - Solid, silicon carbide mechanical seal faces
  - Positive seal flush to keep fresh supply of liquid at seal faces
  - Behind the rotor seal placement eliminates abrasive wear on shaft bushing
  - Standard, reduced speed operation
  - Easy clearance adjustment capabilities
- Pin drive mechanical seal increases viscosity range
- Numerous porting positions, configurations and sizes provide enhanced application flexibility
- Simple design with only two moving parts for easy maintenance
- A number of drive options available to match customer preference

**MATERIALS**
- Cast Iron

**SEALING**
- Component Mechanical Seal

**OPTIONS**
- Jacketed (head and bracket)
- Fully-Jacketed (casing, head and bracket)

**PORTS**
- Opposite (180°)
- Right Angle (90°)
- Same Side (360°) (F and FH sizes)
- Flanged
- NPT

**MOUNTING**
- Foot Mount

**DRIVES**
- See chart on page 31 for drive options

**APPLICATIONS**
- Application examples are available on Pages 4 - 9.

**PERFORMANCE**

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>0.5</td>
<td>0.17 M³/Min (0.75 GPM)</td>
<td>870 RPM</td>
<td>7.0 BAR 100 PSI</td>
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<tr>
<td>FH</td>
<td>1.5</td>
<td>1.10 M³/Min (5.0 GPM)</td>
<td>640 RPM</td>
<td>10.0 BAR 150 PSI</td>
</tr>
<tr>
<td>HL</td>
<td>2.0</td>
<td>5.60 M³/Min (25.0 GPM)</td>
<td>280 RPM</td>
<td>10.0 BAR 150 PSI</td>
</tr>
<tr>
<td>K</td>
<td>2.5</td>
<td>11.30 M³/Min (50.0 GPM)</td>
<td>280 RPM</td>
<td>10.0 BAR 150 PSI</td>
</tr>
<tr>
<td>LL</td>
<td>3.0</td>
<td>11.30 M³/Min (50.0 GPM)</td>
<td>280 RPM</td>
<td>10.0 BAR 150 PSI</td>
</tr>
<tr>
<td>LQ</td>
<td>4.0</td>
<td>32.00 M³/Min (140.0 GPM)</td>
<td>280 RPM</td>
<td>10.0 BAR 150 PSI</td>
</tr>
<tr>
<td>LL</td>
<td>6.0</td>
<td>36.00 M³/Min (160.0 GPM)</td>
<td>280 RPM</td>
<td>10.0 BAR 150 PSI</td>
</tr>
</tbody>
</table>

**CAPACITY**
- To 36 M³/Hr (To 160 GPM)

**PRESSURE**
- To 10 BAR (To 150 PSI)

**VISCOSITY**
- To 16,500 cSt (To 750,000 SSU)

**TEMPERATURE * **
- -51°C to +121°C (-60°F to +250°F)

* Max temperature, special construction, +232°C (+450°F)

Abrasion resistant components also available in other series and sizes.
SPECIAL LIQUID PUMPS - AMMONIA

Heavy-Duty Pumps for Thin, Volatile Liquids

Designed exclusively to handle ammonia and other high-vapor pressure fluids in both refrigeration and transfer applications, these pumps are operated at low speeds to minimize flashing.

CUSTOMER BENEFITS
- Reduced speed operation for extended pump life
- Double mechanical seals with pressurized seal chamber and oil reservoir
- Pressure-lubricated idler bushing maximizes bushing life
- Adjustable return-to-tank pressure relief valve

MATERIALS
- Cast Iron

SEALING
- Double Mechanical Seal

PORTS
- Opposite (180°)
- Right Angle (90°)
- NPT
- Flanged

MOUNTING
- Foot Mount

CAPACITY
To 14 M³/Hr (To 60 GPM)

PRESSURE
To 3.5 BAR (To 50 PSI)

TEMPERATURE
-40 to +107°C (-40 to +225°F)

DRIVES
- See chart on page 31 for drive options

APPLICATIONS
- Application examples are available on Pages 4 - 9.

SPECIAL LIQUID PUMPS - LP GAS

Heavy-Duty Pumps for Thin, Volatile Liquids

Designed exclusively to handle LPG and other high-vapor pressure liquids in both filling and intermittent transfer applications. These pumps are UL listed for LPG service.

CUSTOMER BENEFITS
- Motor speed operation eliminates need for speed reduction for easy installation
- Heavy-duty anti-friction bearings extend service life
- Pressure-lubricated idler bushing maximizes bushing life
- Adjustable return-to-tank pressure relief valve

MATERIALS
- Cast Iron
- Ductile Iron

SEALING
- Mechanical Seal

PORTS
- Opposite (180°)
- Right Angle (90°)
- NPT
- Flanged

MOUNTING
- Foot Mount

CAPACITY
To 21 M³/Hr (To 95 GPM)

PRESSURE
To 7 BAR (To 100 PSI)

TEMPERATURE
-40°C (-40°F)

DRIVES
- See chart on page 31 for drive options

APPLICATIONS
- Application examples are available on Pages 4 - 9.

LP Gas pumps are UL listed for propane or butane liquid transfer applications.
The Asphalt Pumps with temperature control options provide quick time to temperature to melt asphalt that has solidified in the pump prior to startup. Jacketing available in bracket, head, and bearing area keeps bitumen from solidifying in pump.

CUSTOMER BENEFITS

- Economical, general purpose and superior performance heavy-duty pumps available
- Universal seal capability: packing or cartridge seals
- Durable, cast iron construction
- Hard materials available for filled asphalt
- Jacketed heating options available
- Jacketing suitable for hot oil or steam for enhanced application flexibility
- Variety of jacket connection options including tapped and flange

MATERIALS

- Cast Iron

SEALING

- Packing
- Cartridge Mechanical Seal
- Cartridge Triple Lip Seal

OPTIONS

- Jacketed (head and bracket)
- Fully-Jacketed (casing, head, and bracket)

PORTS

- Opposite (180°)
- Right Angle (90°)
- Flanged
- NPT

MOUNTING

- Foot Mount

DRIVES

- See chart on page 31 for drive options

APPLICATIONS

- Application examples are available on Pages 4 - 9.

<table>
<thead>
<tr>
<th>PERFORMANCE - General Purpose</th>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>M³/Hr</td>
<td>GPM</td>
<td>RPM</td>
<td>BAR</td>
</tr>
<tr>
<td>CAST IRON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>HL 1.5</td>
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<td>1,200</td>
<td>7.0</td>
<td>100</td>
</tr>
<tr>
<td>KK 2.0</td>
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<td>420</td>
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<tr>
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<td>350</td>
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<tr>
<td>M 4.0</td>
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<table>
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<th>Maximum Pressure</th>
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<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>M³/Hr</td>
<td>GPM</td>
<td>RPM</td>
<td>BAR</td>
</tr>
<tr>
<td>CAST IRON</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>15</td>
<td>1,750</td>
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<td>1,600</td>
<td>280</td>
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</tbody>
</table>
GENERAL PURPOSE PUMPS

Economical, Simple Design Pumps for Medium-Duty Applications

The General Purpose pump uses a simplified rotor retention system that is well-suited to many medium-duty applications. Some models are available with UL listing for use in power operated oil burners or for use as fuel oil transfer pumps.

CUSTOMER BENEFITS

- Proven, simple pump design with only two moving parts provides maximum application flexibility
- Self-priming pump for applications with suction lift
- Choice of shaft seals to match application requirements
- Temperature control available through jacketing option
- UL listing available on selected models
- Motor mount option for ease of installation on selected models
- Durable, cast iron construction

MATERIALS

- Cast Iron

SEALING

- Packing
- Lip Seal
- Mechanical Seal
- Cartridge Triple Lip Seal

PORTS

- Opposite (180°)
- Right Angle (90°)
- Same Side (360°)
- Flanged
- NPT

MOUNTING

- Foot Mount
- Flange Mount (Closed-Coupled)

DRIVES

- See chart on page 31 for drive options

APPLICATIONS

- Application examples are available on Pages 4 - 9.

PERFORMANCE

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>M³/Hr GPM RPM BAR PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>0.25</td>
<td>0.11 0.5 17 250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
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<td>0.34 1.5 7 100</td>
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<tr>
<td>FH</td>
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<td>1.5 7.0</td>
<td></td>
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<td>H</td>
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<tr>
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<tr>
<td>HL</td>
<td>7.0</td>
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<td></td>
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</tr>
<tr>
<td>C</td>
<td>0.25</td>
<td>0.11 0.5 17 250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>0.5</td>
<td>0.34 1.5 7 100</td>
<td></td>
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</tr>
<tr>
<td>FH</td>
<td>0.68</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>1.0</td>
<td>1.1 5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>2.3</td>
<td>10.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HJ</td>
<td>4.5</td>
<td>20.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HL</td>
<td>7.0</td>
<td>30.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>0.25</td>
<td>0.11 0.5 17 250</td>
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<td>1.0</td>
<td>1.1 5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
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<tr>
<td>HL</td>
<td>7.0</td>
<td>30.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pressure relief valve is standard.

SERIES 475 Pump
“GG” Size

SERIES 32 Pump
“HL” Size

CAPACITY

To 102 M³/Hr (To 450 GPM)

PRESSURE

To 17 BAR (To 250 PSI)

VISCONSITY

To 55,000 cSt (To 250,000 SSU)

TEMPERATURE *

-51°C to +107°C (-60°F to +225°F) (Mech. Seal)
-51°C to +149°C (-60°F to +300°F) (Packed)

* With special construction, temperatures to 260°C (500°F) can be handled with seal pumps and to 343°C (650°F) with packed pumps.

Integral pressure relief valve is standard.
Viking’s Spur Gear series pumps are ideal for low-capacity, high-pressure applications running at motor speeds. Used in both industrial and mobile environments for applications such as metering, filtering, fuel supply and lubrication. Mag drive configurations are ideal for handling volatile, odorous, or hazardous additives into processes and pipelines. Its compact, rugged design provides an excellent value with industry leading versatility.

**CUSTOMER BENEFITS**
- Evenly incremented displacements provide a pump within 20% of your capacity needs
- Precision machined components afford precise metering and flow control for increased process accuracy
- Variety of sealing options including Mag Drive (sealless) to cost-effectively meet your application needs
- Double pump configurations offer two flow rates operating from single power source, reducing equipment costs
- Close-coupled motor mount, foot bracket, and base-mounting options available to match your space or motor requirements
- Static O-ring seals with dynamic lip or mechanical shaft seals provides sealing reliability and integrity
- Heat treated gears and hardened shafts offer long-life performance
- Needle bearings provide high pressure capabilities with excellent efficiency
- UL or NSF listing available on select models

**MATERIALS**
- Cast Iron
- Ductile Iron

**SEALING**
- Lip Seal
- Mechanical Seal
- Sealless Mag Drive

**PORTS**
- Opposite (180°)
- Right Angle (90°)
- NPT

**MOUNTING**
- Foot Mount
- Flange Mount (close-coupled)

**DRIVES**
- See chart on page 31 for drive options

**APPLICATIONS**
- Application examples are available on Pages 4 - 9.
Composite Pumps for Crucial Liquid Containment

Magnetically driven pumps eliminate the need for mechanical shaft seals. Designed for transferring hazardous, hard-to-seal, or expensive liquids, these pumps eliminate the high cost associated with complex seals and auxiliary equipment. These pumps are ideal for applications like acids, bases, halides, volatile organic chemicals and flammable liquids.

CUSTOMER BENEFITS

- Sealless, non-metallic all wetted component construction eliminates mechanical seal and eddy current energy loss for lower cost of ownership
- Wide flow range to better match application requirements
- Robust design includes heavy-duty, self lubricating materials and patent pending geometry for run-dry capabilities (CMD)
- Front pullout design provides simplified in-line servicing (CMD)
- Patent pending liner protects casing from wear, extending pump life (CMD)
- Regain 100% performance with recommended spare parts kit, for optimal productivity (CMD)
- Universal flanges with PTFE inserts mate to both ANSI and DIN flange systems for ease of installation and retrofit (CMD)
- Universal motor adapters mate to multiple NEMA and IEC motors for ease of installation
- Variety of seal options (VI-CORR)
- NPT or ANSI flange available
- Higher pressure capability - VI-CORR: 14 BAR (200 PSI), CMD: 10 BAR (150 PSI)
- Variety of drive options (VI-CORR)
- Internal relief valve standard (VI-CORR)

MATERIALS

- Carbon Reinforced ETFE (CMD)
- PPS (VI-CORR)

SEALING

- O-Ring
- Lip Seal (VI-CORR)
- Sealless Mag Drive (VI-CORR)

PORTS

- NPT
- NPT (ISO 7-1) (CMD)
- Flanged (ANSI or DIN)

MOUNTING

- Motor Mount
- Foot Mount (CMD)

DRIVES

- See chart on page 31 for drive options

APPLICATIONS

- Application examples are available on Pages 4 - 9.

PERFORMANCE - CMD SERIES

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Pressure</th>
</tr>
</thead>
<tbody>
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<td>Inches</td>
<td>1450 RPM GPM</td>
<td>1750 RPM GPM</td>
</tr>
<tr>
<td>02</td>
<td>1/4</td>
<td>0.34</td>
<td>1.3</td>
</tr>
<tr>
<td>05</td>
<td>3/8</td>
<td>1.3</td>
<td>4.9</td>
</tr>
<tr>
<td>12</td>
<td>3/4</td>
<td>2.6</td>
<td>10.0</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
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</tr>
<tr>
<td>75</td>
<td>1-1/2</td>
<td>16.5</td>
<td>62.5</td>
</tr>
</tbody>
</table>

In-line valve sold separately.

PERFORMANCE - VI-CORR

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Pressure</th>
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<tr>
<td></td>
<td>Inches</td>
<td>1450 RPM GPM</td>
<td>1750 RPM GPM</td>
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<td>RP-0732</td>
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</tr>
</tbody>
</table>

Integral relief valve is standard.

CAPACITY

- To 75 LPM (To 20 GPM) (CMD)
- To 121 LPM (To 32 GPM) (VI-CORR)

PRESSURE

- To 10 BAR (To 150 PSI) (CMD)
- To 14 BAR (To 200 PSI) (VI-CORR)

VISCOSITY

- To 5,500 cSt (To 25,000 SSU)

TEMPERATURE

- -40°C to +65°C (-40°F to +150°F) (CMD)
- -40°C to +93°C (-40°F to +200°F) (VI-CORR)
Viking®

Product Selection Guide

23

MATERIALS
▪ Stainless Steel

SEALING
▪ Component Mechanical Seal
▪ Cartridge Mechanical Seal
▪ Cartridge Triple Lip Seal

PORTS
▪ Opposite (180°)
▪ Flanged (ANSI or DIN)

MOUNTING
▪ Motor Mount (Size 001/002 only)
▪ Foot Mount

DRIVES
▪ See chart on page 31 for drive options

APPLICATIONS
▪ Application examples are available on Pages 4 – 9.

CUSTOMER BENEFITS
▪ Harder components than other vane pumps extend pump life
  - 62 Rockwell C surface-hardened one-piece, 316 stainless steel casing
  - Silicon Carbide sleeve bearings
  - Chrome oxide shaft coating
▪ Superior suction lift capability for enhanced self-priming ability
▪ Non-metallic vanes and push rods extend pump life
▪ Short-term dry-run-capability tolerates process upsets without pump damage
▪ 20 minute in-line vane replacement reduces scheduled downtime for lower cost of ownership
▪ Smooth, non-pulsing flow with reversible direction of flow for application flexibility
▪ Tailored sealing solutions for application flexibility
▪ Pump design offers ANSI or DIN flanges, and IEC or NEMA motor mounts conform to international standards for enhanced application flexibility

PERFORMANCE

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
</tr>
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<tbody>
<tr>
<td></td>
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<td>M³/Hr</td>
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<td>LVP41237</td>
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</tbody>
</table>

Integral pressure relief valve is standard.

A stainless steel vane pump designed for thin liquids at pressures up to 14 Bar (200 PSI). Rugged, industrial-duty pump to handle liquid transfer applications ranging from harsh chemicals to liquefied gases to deionized water.

LVP SERIES VANE PUMPS

Vane Pumps for Corrosive, Thin Liquids at Higher Pressures

To 36 M³/Hr (To 160 GPM)
To 14 BAR (To 200 PSI)
To 500 cSt (To 2,300 SSU)
-29°C to +107°C (-15°F to +225°F)

Temperature range, special construction, -21°C to 289°C (-60°F to 550°F)
STAINLESS STEEL LOBE PUMPS

Gentle, Low Shear Pumping Action With In-line Cleanability

SL and CP series lobe pumps ensure integrity of pumped liquids by minimizing shear, through use of large fluid cavities and no metal-to-metal contact. Elimination of dead spaces enhances in-line cleanability. Typical applications include liquids with suspended solids and processes that require cleaning between batches.

CUSTOMER BENEFITS

▪ Timed rotors to eliminate metal-to-metal contact and protect product integrity
▪ Front loading mechanical seals for ease of maintenance
▪ Large fluid cavities for superior solids handling
▪ Solvent or steam-flushable for in-line cleaning between batches to prevent product cross-contamination
▪ Vertical or horizontal porting for installation flexibility
▪ Optional seal flush allows run-dry capabilities

CAPACITY
To 230 M³/Hr (To 1,014 GPM) (SL Series)
To 147 M³/Hr (To 650 GPM) (CP Series)

PRESSURE
To 15 BAR (To 215 PSI) (SL Series)
To 12 BAR (To 175 PSI) (CP Series)

VISCOSITY
To 110,000 cSt (To 500,000 SSU)

TEMPERATURE
-20°C to +149°C (-4°F to +300°F)

PERFORMANCE - SL SERIES

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<thead>
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<th>Size</th>
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<th>Maximum Speed</th>
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<td>Inches</td>
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<td>93</td>
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<td>SLGL</td>
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<td>10</td>
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PERFORMANCE - CLASSIC+

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<td></td>
<td>Inches</td>
<td>LPM</td>
<td>GPM</td>
<td>RPM</td>
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<td>CP10S</td>
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<td>34</td>
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<td>650</td>
<td>2,730</td>
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</table>

MATERIALS
▪ 316 Stainless Steel

SEALING
▪ Single or Double Mechanical Seal
▪ O-Ring Shaft Seal

PORTS
▪ Opposite (180°)
▪ Flanged
▪ NPT

MOUNTING
▪ Foot Mount

DRIVES
▪ See chart on page 31 for drive options

APPLICATIONS
▪ Application examples are available on Pages 4 - 9.
INDUSTRIAL LOBE PUMPS

High Pressure Performance With Superior Sealing Flexibility

Proven design of the RL series handles a broad range of fluid viscosities where higher pressures are required. Unique, patented design emphasizes flexibility in sealing, porting, and lobe clearance adjustment to optimize the pump for each application.

CUSTOMER BENEFITS

▪ Accepts industry standard cartridge seals for maximum flexibility
▪ Port sizes from 3 to 10 inches to handle a broad range of fluid viscosities
▪ Rugged rotor shaft support for longer life and higher pressure capabilities
▪ Shimless design for ease of maintenance
▪ Bi-directional design for easy loading and unloading applications
▪ Proven success beyond catalog ratings with special construction and factory approval

MATERIALS

▪ 316 Stainless Steel

SEALING

▪ Packing
▪ Component Mechanical Seal
▪ Cartridge Mechanical Seal
▪ Cartridge Triple Lip Seal

PORTS

▪ Opposite (180°)
▪ Flanged

MOUNTING

▪ Foot Mount

DRIVES

▪ See chart on page 31 for drive options

APPLICATIONS

▪ Application examples are available on Pages 4 - 9.

PERFORMANCE

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL016</td>
<td>3</td>
<td>23.8 M³/Hr (95 GPM)</td>
<td>105 RPM</td>
<td>27 BAR (400 PSI)</td>
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<tr>
<td>RL025</td>
<td>3</td>
<td>36.3 M³/Hr (136 GPM)</td>
<td>160 RPM</td>
<td>40 BAR (580 PSI)</td>
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<tr>
<td>RL150</td>
<td>6</td>
<td>186 M³/Hr (715 GPM)</td>
<td>820 RPM</td>
<td>600 BAR (874 PSI)</td>
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</tbody>
</table>

CAPACITY

To 186 M³/Hr (To 820 GPM)

PRESSURE

To 27 BAR (To 400 PSI)

VISCOSITY

To 440,000 cSt (To 2,000,000 SSU)

TEMPERATURE *

-40°C to +204°C (-40°F to +400°F)

* Special sealing or materials of construction may be required.
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 pump designs derived from more than 1000 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.

CUSTOMER BENEFITS
- Pump principle or system customized to match application need
- Built to your specifications
- Advanced testing/lab capabilities
- Vertically integrated foundries (Alloy and Iron)
- Machine shop
- Global manufacturing and sourcing
- Vertically integrated from casting to machining to final assembly
- Application and design engineering
- ISO9000:2001 and ISO14001 documented quality manufacturing processes

MATERIALS
- Cast Iron
- Ductile Iron
- Steel
- Stainless Steel
- Composite (PPS)

SEALING
- Packing
- Lip Seal
- Component Mechanical Seal
- Cartridge Mechanical Seal
- Cartridge Triple Lip Seal
- Sealless Mag Drive
- O-Ring

OPTIONS
- Jacketed (head and bracket)
- Fully Jacketed (casing, head and bracket)

PORTS
- Opposite (180°)
- Right Angle (90°)
- Same Side (360°)
- Flanged
- NPT
- Customer Specific Internal or External Ports

MOUNTING
- Foot Mount
- Flange Mount (Close-Coupled)
- Vertical In-Line
- Customer Specific Mounting Arrangement

DRIVES
- See chart on page 31 for drive options

APPLICATIONS
- Application examples are available on Pages 4 - 9.
Cost Effective, Simple Design

Economical pumps for clean, low-pressure applications like lube and filtration systems. They are available in various mounting configurations.

CUSTOMER BENEFITS
- Customizable mounting and porting to interface with your equipment
- Lip seal standard, mechanical seal optional
- Cartridge pump design also available

MATERIALS
- Cast Iron

SEALING
- Lip Seal
- Mechanical Seal

PORTS
- Opposite (180°)
- NPT
- SAE
- BSP
- Customer Specific Internal Ports

MOUNTING
- Foot Mount
- Flange Mount (Closed-Coupled)
- Cartridge Pump
- Customer Specific Mounting Arrangement

DRIVES
- See chart on page 31 for drive options

APPLICATIONS
- Application examples are available on Pages 4 - 9.

PERFORMANCE

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>LPM</td>
<td>GPM</td>
<td>RPM</td>
</tr>
<tr>
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<td>1,750</td>
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<td>5</td>
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<tr>
<td>GR-0912</td>
<td></td>
<td>37</td>
<td>10</td>
<td></td>
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</table>

Optional, adjustable pressure relief valve available.

Economical pumps for clean, low-pressure applications like lube and filtration systems. They are available in various mounting configurations.
LID-EASE STRAINER

Protection for Pumps and Downstream Systems

The Viking Lid-Ease® strainers provide protection for the pump by preventing solids or foreign materials from entering. Inexpensive insurance for the pump and downstream system components to maximize life for a lower overall cost of ownership.

CUSTOMER BENEFITS
- Inclined basket position provides low pressure drop for higher system efficiency
- Quarter-turn, easy opening breech-lock lid simplifies routine cleaning
- Top basket removal eliminates the need to drain the strainer and minimizes product loss
- Weatherseal lid design protects against exterior elements and air infiltration
- Tapped, flanged or grooved end ports available
- Optional magnetic inserts are available for trapping ferrous particles
- Optional differential pressure indicators optimize cleaning intervals

MATERIALS
- Aluminum
- Cast Iron
- Ductile Iron
- Stainless Steel

OPTIONS
- Magnetic Inserts
- Differential Pressure Indicators

PORTS
- Flanged
- NPT
- Grooved

BASKET MESH OPTIONS

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<tr>
<th>Mesh 3/16&quot; Holes</th>
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<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
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</table>

PERFORMANCE

CAPACITY
To 250 M³/Hr (To 1,100 GPM)

PRESSURE
To 14 BAR (To 200 PSI)

VISCOSITY
To 55,000 cSt (To 250,000 SSU)

TEMPERATURE
-51°C to +260°C (-60°F to +500°F)

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity</th>
<th>Rated System Pressure</th>
<th>Maximum Basket Differential Pressure</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>Inches</td>
<td>M³/Hr</td>
<td>GPM</td>
<td>BAR</td>
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</tr>
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<td>14.0</td>
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<td>F-1080</td>
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CAST IRON

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<th>Maximum Basket Differential Pressure</th>
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<td></td>
<td>Inches</td>
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<td>GPM</td>
<td>BAR</td>
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<tr>
<td>F-1020</td>
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<td>23</td>
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<td>14.0</td>
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<tr>
<td>F-1030</td>
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<td></td>
<td>Inches</td>
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<td>F-1060</td>
<td>6.0</td>
<td>182</td>
<td>800</td>
<td>8.5</td>
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</table>
DUPLEX FUEL OIL SETS

Factory engineered and built to order duplex fuel oil sets and control panels for oil transfer applications like fueling diesel generators and oil filtration/recirculation.

CUSTOMER BENEFITS
- Proven, factory manufactured sets built to your order
- UL-CSA electrical control panels
- Easy sizing with 8-Step Selection Program (CD available)
- Available with standard or UL rated pumps
- Quick access comparison sheets, specification sheets and illustration drawings
- Easily requested CAD submittal drawings
- Over 25 years experience engineering and manufacturing duplex fuel oil sets

STANDARD EQUIPMENT
- 2 - Viking heavy duty positive displacement rotary gear or spur gear pumps
- 2 - Flexible couplings with orange peel OSHA guards
- 2 - Motors, totally enclosed fan cooled, NEMA, UL, CSA certified
- 1 - Common heavy gauge steel baseplate with drip lip and NPT drain

SUCTION/DISCHARGE PIPING
- Suction/Discarge piping
- Suction/Discarge Line
- Discharge Line
- Suction Line
- Relief Line
- Galvanized baseplates
- Flexible connectors
- OSHA guards
- Pressure control valves
- Pressure switches
- Pressure gauges
- Boosting low pressure fuel oil on oil-fired boilers and oil-fired furnaces
- Oil filtration recirculation to ensure clean and/or water-free oil

APPLICATIONS
- Fueling diesel generators for backup electrical power generation
- Fuel oil transfer from storage to day tank
- Fueling diesel generators for backup electrical power generation
- Oil filtration recirculation to ensure clean and/or water-free oil
- Used in oil-fired furnaces
- Used in oil-fired boilers
- Used in oil-fired furnaces
- Used in oil-fired boilers

CAPACITY
- 0.2 to 284 M³/Hr (1 to 75 GPM)
- 0.3 to 17 BAR (5 to 250 PSI)
- 0.2 to 284 M³/Hr (1 to 75 GPM)
- 0.3 to 17 BAR (5 to 250 PSI)

PRESSURE
- 38 to 2,500 cSt (38 to 500 SSU)
- 0.2 to 284 M³/Hr (1 to 75 GPM)
- 0.3 to 17 BAR (5 to 250 PSI)
- 0.2 to 284 M³/Hr (1 to 75 GPM)

VISCOSITY
- 0.3 to 17 BAR (5 to 250 PSI)
- 0.2 to 284 M³/Hr (1 to 75 GPM)
- 0.3 to 17 BAR (5 to 250 PSI)
- 0.2 to 284 M³/Hr (1 to 75 GPM)

TEMPERATURE
- -20°C to +82°C (-4°F to +180°F)
- -20°C to +82°C (-4°F to +180°F)
- -20°C to +82°C (-4°F to +180°F)
- -20°C to +82°C (-4°F to +180°F)

PERFORMANCE

<table>
<thead>
<tr>
<th>Duplex Package Model</th>
<th>Viking Pump Model</th>
<th>Nominal Pipe Size (NPT)</th>
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<th>Discharge Header</th>
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</tbody>
</table>

![Product Selection Guide](29)
Viking offers two styles of helical gear reducers to reduce standard driver speeds to match pump or other driven equipment. Viking offset reducers allow the input shaft to swivel to match driver shaft height, while output (slow speed) shaft height corresponds to typical Viking Pump shaft heights. The in-line reducers offer a larger range of sizes, ratios, and power capabilities, with the option of IEC or NEMA motor adapters on sizes 11 through 61.

### CUSTOMER BENEFITS

**In-Line Reducers**
- Available in eleven sizes and a variety of ratios
- Universal mounting - solid input shaft or motor mount option
- High efficiency and low noise levels

**Offset Reducers**
- Available in three sizes and a variety of ratios
- All ratios are fully interchangeable in each gearbox
- Multiple mounting brackets to match Viking shaft heights

### PERFORMANCE

#### 50 Hz

<table>
<thead>
<tr>
<th>Series</th>
<th>No. of Ratios</th>
<th>Ratio Range</th>
<th>kW Range With 1450 RPM Input</th>
<th>kW Range With 950 RPM Input</th>
<th>Output RPM Range</th>
<th>HP Range With 1750 RPM Input</th>
<th>Output RPM Range</th>
<th>HP Range With 1150 RPM Input</th>
<th>Output RPM Range</th>
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<td>640 to 350</td>
<td>2.7 to 1.3</td>
<td>420 to 230</td>
<td>6.1 to 3.1</td>
<td>780 to 420</td>
<td>4.3 to 2.2</td>
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<td>B</td>
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<td>520 to 125</td>
<td>19.0 to 6.4</td>
<td>950 to 230</td>
<td>16.5 to 4.4</td>
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<td>7</td>
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<td>56.9 to 10.7</td>
<td>168 to 30</td>
<td>143 to 30.5</td>
<td>310 to 56</td>
<td>101 to 19.2</td>
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<td>19</td>
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<td>137 to 24.1</td>
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<td>193 to 32</td>
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<td>259 to 50.0</td>
</tr>
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</table>
Viking® Product Selection Guide

System Integration, Simplified Installation

Specific pumps within each pumping principle may or may not be compatible with a specific drive arrangement. Please contact your Authorized Viking® Distributor to make sure your particular pump is compatible with the desired drive arrangement.

**CUSTOMER BENEFITS**

- Factory assembled systems including base plate, motor, couplings, guards, pumps, and speed reduction if needed
- Pre-alignment from factory minimizes final alignment at installation
- Single source responsibility
- Drawings available to facilitate piping layout
- Viking will provide any customer specified motors, gear reducers, or other components
- Custom engineered bases to fit customer specifications
- Custom engineered systems with day tanks and process equipment available

**PERFORMANCE**

<table>
<thead>
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<th>PUMP SERIES</th>
<th>Drive Style</th>
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</tbody>
</table>

**INTERNAL GEAR**

**Industrial-Duty Pumps**

- Universal Seal
- Jacketed Universal Seal
- Motor Speed (Metric)
- Motor Speed

**General Purpose Pumps**

- General Purpose
- Gerotor
- Sealless

- Viking Mag Drive®
- Special Purpose

- Abrasive Liquids
- Ammonia
- Asphalt
- LP Gas

**EXTERNAL GEAR**

**Sealed**

- Spur Gear
- Sealless

- Mag Drive Spur Gear

Viking offers a variety of factory-assembled skid-, bracket- or motor-mount options to help simplify installation, alignment, and commissioning.
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 1600 GPM)
Pressure: 0 to 172 Bar (0 to 2500 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, ISO14001, 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 1000 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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Web site: www.vikingpump.com