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:

- Product customization to handle virtually any liquid
- Extensive engineering lab capabilities
- Broad range of solutions for most fluid-handling problems
- Strong knowledge of industrial pump applications
- Custom pump solutions for unique applications

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

Accessories including:

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

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 caulking compound)
- Cryogenic to molten (liquefied gases to molten sulfur)
- Inert to corrosive (oil to brine)
- Newtonian to non-newtonian (water to latex)
- 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)
CHEMICALS
Markets and Applications Served in the Chemical Industry

- Personal Care Products
- Ethyl Alcohol Manufacturing
- Explosives
- Basic Inorganic Chemicals
- Synthetic Dyes & Pigments
- Basic Organic Chemicals
- Plastic & Rubber Products
- Drugs / Pharmaceutical
- Petrochemicals
- Plastics / Resins / Rubbers
- Paint & Applied Products
- Printing Inks
- Agricultural Chemicals
- Polyurethane Foam Products
- Soaps & Cleaning Compounds

FOOD PROCESSING
Markets and Applications Served in the Food Processing Industry

- Chocolate & Confectionary
- Dairy Products
- Beverages
- Edible Oils
- Sugar
- Animal Food
Markets and Applications Served in the Refined Petroleum & Coal Industries

- Oil & Gas Extraction
- Petroleum Refining
- Refined Fuel, LPG & CNG Distribution
- Lubricating Oil & Grease Manufacturing
- Asphalt Paving Mixtures
- Roofing Products
- Lubricant & Conditioning
- Coal Tar Pitch & Coke

Markets and Applications Served in the Machinery Industry

- Engines & Turbines
- Commercial Cooking Machinery
- Semiconductor Machinery
- Farm Machinery
- Packaging Machinery
- Printing Machinery
- Medical Equipment
- Pumps & Compressors
- Construction / Mining / Material Handling Equipment
- Machine Tools
Markets and Applications Served in the Transportation Industry

- Railroads
- Military
- Pipelines
- Automotive
- Trucks
- Aircraft Equipment
- Marine
- Terminals

Markets and Applications Served in Other Industries

- Utilities
- Industrial Refrigeration
- Mining
- Metals
- Water Treatment / Conditioning
- Printing & Publishing
- Electronics / Electrical Equipment
- Wastewater Treatment
- Pulp / Paper / Applied Products
- Heating Equipment
- Textiles
There is Nothing Standard About Your Application or Our Heavy-Duty Pumps

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, and by minimizing leakage to reduce downtime, maintenance, and extend 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 7 lists some of the constructions and features offered.

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 but not limited to:
- 316 Stainless Steel
- Alloy C
- Alloy 20
- Monel
- Bronze
- ETFE

VISCOSITY
Viking pumps can be configured for optimum performance on thin or thick liquids, or any combination including:
- Models for thin liquids
- Models for thick liquids
- Special designs for multiple viscosities

TEMPERATURE
For extreme temperature applications, Viking offers:
- Metals
- Seals
- Jacketing
- Temperature Probes

STANDARDS
Many Viking products meet industry standards for certifications such as UL, NSF, ANSI, API, 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
- Threaded ports
- ANSI, DIN and JIS compatible flanges
- Flat and raised face flanges
- Oversized ports
- Top, bottom, or side suction/discharge

ACCESSORIES
- Lid-Ease Strainer (Page 22)
- Gear Reducers - Helical Offset and In-Line (Page 23)
- Duplex Fuel Oil Sets (Page 25)
- Drives (Page 26)
### PUMPING PRINCIPLE

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>Internal Gear</th>
<th>External Gear</th>
<th>Vane</th>
<th>Lobe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Duty</td>
<td>Motor Speed</td>
<td>Motor Speed</td>
<td>Abrasive</td>
<td>Thin, Volatile</td>
</tr>
<tr>
<td>Special Purpose</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquids</td>
<td>Liquids</td>
</tr>
<tr>
<td>General Purpose</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PERFORMANCE

<table>
<thead>
<tr>
<th>Maximum Capacity, M³/Hr</th>
<th>360</th>
<th>25</th>
<th>114</th>
<th>17</th>
<th>45</th>
<th>36</th>
<th>21</th>
<th>360</th>
<th>102</th>
<th>43</th>
<th>4.5</th>
<th>7.2</th>
<th>36</th>
<th>186</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Capacity, GPM</td>
<td>1,600</td>
<td>110</td>
<td>500</td>
<td>75</td>
<td>200</td>
<td>160</td>
<td>95</td>
<td>1,600</td>
<td>450</td>
<td>190</td>
<td>20</td>
<td>32</td>
<td>160</td>
<td>820</td>
</tr>
<tr>
<td>Maximum Capacity, LPM</td>
<td>6,056</td>
<td>6,056</td>
<td>6,056</td>
<td>284</td>
<td>757</td>
<td>606</td>
<td>360</td>
<td>6,056</td>
<td>1,703</td>
<td>719</td>
<td>75</td>
<td>121</td>
<td>606</td>
<td>3,104</td>
</tr>
<tr>
<td>Maximum Pressure, BAR</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>17</td>
<td>17</td>
<td>10</td>
<td>7</td>
<td>14</td>
<td>17</td>
<td>170</td>
<td>10</td>
<td>14</td>
<td>14</td>
<td>27</td>
</tr>
<tr>
<td>Maximum Pressure, PSI</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>250</td>
<td>250</td>
<td>150</td>
<td>100</td>
<td>200</td>
<td>250</td>
<td>2,500</td>
<td>150</td>
<td>200</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>Maximum Viscosity, cSt</td>
<td>1,000,000</td>
<td>1,000,000</td>
<td>55,000</td>
<td>5,500</td>
<td>22,000</td>
<td>16,500</td>
<td>N/A</td>
<td>55,000</td>
<td>5,500</td>
<td>440,000</td>
<td>5,000</td>
<td>5,000</td>
<td>500</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Maximum Viscosity, SSU</td>
<td>4,500,000</td>
<td>4,500,000</td>
<td>250,000</td>
<td>25,000</td>
<td>100,000</td>
<td>75,000</td>
<td>N/A</td>
<td>250,000</td>
<td>25,000</td>
<td>2,000,000</td>
<td>25,000</td>
<td>25,000</td>
<td>2,300</td>
<td>4,500,000</td>
</tr>
<tr>
<td>Maximum Temperature °C *</td>
<td>+371</td>
<td>+260</td>
<td>+107</td>
<td>+177</td>
<td>+150</td>
<td>+232</td>
<td>-40 to +107</td>
<td>+371</td>
<td>+371</td>
<td>+232</td>
<td>+65</td>
<td>+93</td>
<td>+260</td>
<td>+204</td>
</tr>
<tr>
<td>Maximum Temperature °F *</td>
<td>+700</td>
<td>+500</td>
<td>+225</td>
<td>+350</td>
<td>+300</td>
<td>+450</td>
<td>-40 to +225</td>
<td>+700</td>
<td>+700</td>
<td>+450</td>
<td>+150</td>
<td>+200</td>
<td>+500</td>
<td>+400</td>
</tr>
</tbody>
</table>

### SIZES

| Number of Sizes in Series | 17 | 7 | 9 | 6 | 6 | 12 | 11 | 14 | 17 | 29 | 5 | 4 | 6 | 3 |

### CASING MATERIAL

<table>
<thead>
<tr>
<th>Cast Iron</th>
<th>Ductile Iron</th>
<th>Steel</th>
<th>Stainless Steel</th>
<th>Composite</th>
<th>ETFE</th>
<th>PPS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SEALING

<table>
<thead>
<tr>
<th>Packing</th>
<th>Lip Seal</th>
<th>Component Mechanical Seal</th>
<th>Cartridge Mechanical Seal</th>
<th>Cartridge Triple Lip Seal</th>
<th>Sealless Mag Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### OPTIONS

<table>
<thead>
<tr>
<th>Jacketed (head/bracket)</th>
<th>Fully Jacketed (casing/head/bracket)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PORTS

<table>
<thead>
<tr>
<th>Opposite (180°)</th>
<th>Right Angle (90°)</th>
<th>Same Side (360°)</th>
<th>Flanged</th>
<th>Tapped</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### MOUNTING

<table>
<thead>
<tr>
<th>Foot Mount</th>
<th>Flange Mount (Close-Coupled)</th>
<th>Vertical In-Line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### APPLICATIONS

<table>
<thead>
<tr>
<th>High Temperature</th>
<th>Abrasives</th>
<th>Corrosives</th>
<th>High Viscosity</th>
<th>Medium Viscosity</th>
<th>Low Viscosity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*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
- 17 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
- Sealless Mag Drive (See Page 9)

**PORTS**

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

**MOUNTING**

- Foot Mount

**DRIVES**

- See chart on page 26 for drive options

**APPLICATIONS**

- Application examples are available on Pages 3 – 5.

**SERIES**


### 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</td>
<td>GPM</td>
<td>RPM</td>
</tr>
<tr>
<td>G</td>
<td>1.0</td>
<td>2</td>
<td>8</td>
<td>1,800</td>
</tr>
<tr>
<td>H</td>
<td>1.5</td>
<td>3</td>
<td>15</td>
<td>1,200</td>
</tr>
<tr>
<td>HL</td>
<td>2.0</td>
<td>11</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>AL</td>
<td>2.0</td>
<td>17</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>2.0</td>
<td>23</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>2.0</td>
<td>31</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>LQ</td>
<td>2.5</td>
<td>32</td>
<td>140</td>
<td>640</td>
</tr>
<tr>
<td>LL</td>
<td>3.0</td>
<td>45</td>
<td>200</td>
<td>640</td>
</tr>
<tr>
<td>LS</td>
<td>4.0</td>
<td>68</td>
<td>300</td>
<td>640</td>
</tr>
<tr>
<td>Q</td>
<td>4.0</td>
<td>95</td>
<td>420</td>
<td>640</td>
</tr>
<tr>
<td>M</td>
<td>6.0</td>
<td>114</td>
<td>500</td>
<td>640</td>
</tr>
<tr>
<td>GS</td>
<td>6.0</td>
<td>136</td>
<td>600</td>
<td>640</td>
</tr>
<tr>
<td>N</td>
<td>8.0</td>
<td>250</td>
<td>1,100</td>
<td>8.5</td>
</tr>
<tr>
<td>R</td>
<td>10.0</td>
<td>365</td>
<td>1,600</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>1.5</td>
<td>2</td>
<td>10</td>
<td>1,200</td>
</tr>
<tr>
<td>HL</td>
<td>2.0</td>
<td>5</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>2.0</td>
<td>11</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>KK</td>
<td>2.0</td>
<td>15</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>LQ</td>
<td>2.5</td>
<td>21</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>LL</td>
<td>3.0</td>
<td>25</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>LS</td>
<td>4.0</td>
<td>36</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>4.0</td>
<td>45</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>6.0</td>
<td>64</td>
<td>280</td>
<td></td>
</tr>
<tr>
<td>GS</td>
<td>6.0</td>
<td>73</td>
<td>320</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>8.0</td>
<td>138</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>10.0</td>
<td>365</td>
<td>1,600</td>
<td></td>
</tr>
</tbody>
</table>

**CAPACITY**

To 360 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**

-84°C to +370°C (-120°F to +700°F)*

* Special construction required.
** Higher pressures available with factory approval

Integral relief valve is standard on non-jacketed pumps.

(1) Not a Universal Seal bracket design. Considered Heavy Duty design.

(2) Available as Universal Mag Drive
SEALLESS - UNIVERSAL MAG DRIVE PUMPS

Dimensionally Interchangeable Pumps for Crucial Liquid Containment Applications

The Universal Mag Drive provides a sealless pump that is dimensionally interchangeable with Universal Seal and Heavy Duty bracketed pumps. This allows easy upgrade from packing or mechanical seals to sealless, providing the highest level of liquid containment available today.

CUSTOMER BENEFITS

▪ Eliminates maintenance costs associated with shaft seal failure and replacement
▪ Eliminates environmental costs associated with shaft seal leakage
▪ Minimize installation costs when upgrading existing Universal Series pumps to sealless with dimensionally interchangeable footprint
▪ Multiple port sizes, types and ratings are available, providing easy match to requirements for easy installation
▪ Bi-directional pumping design eliminates cost of second pump for loading or unloading

JACKETED - UNIVERSAL SERIES PUMPS

Temperature Controlled Industrial-Duty Pumps

These pumps offer a variety of jacketing options to easily handle fluids that require either heating or cooling. Jacketed pumps are ideal for applications like asphalt/bitumen, resins and chocolate. Fully jacketed pumps with jacketed casing and flanges available in steel and Stainless Steel provide uniform temperature control for critical processes like ABS, epoxy and PET resins.

CUSTOMER BENEFITS

▪ Jacketing options available for all critical areas of the provide rapid heating and cooling capabilities for faster startup
▪ Allows a variety of heating or cooling media including hot oil, steam and water
▪ Clearances optimized for maximum efficiency
▪ Numerous porting positions, configurations and sizes provide enhanced application flexibility
▪ Proven uniform temperature control for improved product consistency

SERIES

▪ 8124A, 8123A, 8127A

PERFORMANCE - SEE TABLE ON PAGE 8
Available in sizes H, HL, K, KK, L, LQ, LL, LS, Q & QS

SERIES


PERFORMANCE - SEE TABLE ON PAGE 8
All Universal Seal sizes are available with jacketing.
HEAVY DUTY ALLOY PUMPS

Extra Value Pumps with Alloy Wetted Parts

Viking Pump offers two major alternatives for internal gear pumps in stainless steel or other alloys.

1. The Universal Seal series (page 8) provides the ultimate in corrosion resistance, with stainless head, casing and bracket.

2. Where external corrosion resistance is not as critical, Viking’s 724/4724 series Heavy Duty Alloy pumps offer excellent value by combining stainless wetted components (head and casing) with a cast iron (non-wetted) bracket.

CUSTOMER BENEFITS

- Jacketed bracket standard on H-LL sizes for heating or cooling. Optional jacketed heads available.
- Integral thrust bearing standard for heavy duty applications
- Motor speed operation on smaller sizes – no reducer required
- Integral pressure relief valve standard on sizes G-LL

MATERIALS

- 316 Stainless Steel
- Alloy C, Alloy 20, and others

SEALING

- Packing
- Component mechanical seal in stuffing box (sizes F-HL)
- Component mechanical seal behind-the-rotor (sizes K-LL)

PORTS

- Opposite NPT ports (sizes F - G)
- 90° NPT ports (sizes H-L)
- 90° 150 class ANSI flange ports (sizes LQ & LL)

MOUNTING

- Foot Mount

DRIVES

- See chart on page 26 for drive options

APPLICATIONS

- Application examples are available on Pages 3 – 5.

SERIES

- 724, 4724

### 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>1/2</td>
<td>0.5 M¹ Hr 1.5 GPM 1,800 RPM 14 BAR 200 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FH</td>
<td>3/4</td>
<td>0.75 M¹ Hr 2 GPM 1,200 RPM 10 BAR 150 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>1</td>
<td>1 M¹ Hr 3 GPM 5 RPM 5 BAR 5 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>1.5</td>
<td>2 M¹ Hr 10 RPM 10 BAR 10 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HL</td>
<td>2</td>
<td>5 M¹ Hr 20 RPM 5 BAR 5 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>2.5</td>
<td>10 M¹ Hr 45 RPM 520 BAR 150 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KK</td>
<td>3</td>
<td>15 M¹ Hr 65 RPM 10 BAR 10 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>2.5</td>
<td>20 M¹ Hr 90 RPM 420 BAR 150 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LQ</td>
<td>3</td>
<td>25 M¹ Hr 110 RPM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LL</td>
<td>3</td>
<td>32 M¹ Hr 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CAPACITY

To 25 M¹ Hr (To 110 GPM)

PRESSURE

To 14 BAR (To 200 PSI)

VISCOSITY

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

TEMPERATURE

-84°C to +260°C (-120°F to +500°F)
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

MOTOR SPEED PUMPS - MAG DRIVE

Sealless Pumps for Crucial Liquid Containment Applications

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

PORTS

- Opposite (180°)
- Right Angle (90°)
- Flanged ANSI or DIN compatible
- NPT

MOUNTING

- Foot Mount
- Motor Mount (close-coupled)

DRIVES

- See chart on page 26 for drive options

APPLICATIONS

- Application examples are available on Pages 3 - 5.

SERIES

- 855, 893, 895, 897

CAPACITY

To 38 M³/Hr (To 130 GPM)

PRESSURE

To 14 BAR (To 200 PSI)

VISCOSITY

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

TEMPERATURE *

-51°C to +17°C (-60°F to +225°F)

* Max temperature, special construction, +260°C (+500°F)

<table>
<thead>
<tr>
<th>Size</th>
<th>Ports *</th>
<th>Nominal Capacity At Maximum Speed</th>
<th>Maximum Speed</th>
<th>Maximum Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS</td>
<td>1.0 (25)</td>
<td>1.1  5</td>
<td>1,800</td>
<td>14.0  200</td>
</tr>
<tr>
<td>GG</td>
<td>2.2 10</td>
<td>1,500</td>
<td>10.3 150</td>
<td></td>
</tr>
<tr>
<td>HJ</td>
<td>1.5 (40)</td>
<td>4.5  20</td>
<td>1,800</td>
<td>8.5  125</td>
</tr>
<tr>
<td>HL</td>
<td>6.8 30</td>
<td>8.5  125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS</td>
<td>12.5 42</td>
<td>6.8  30</td>
<td>1,500</td>
<td>8.5  125</td>
</tr>
<tr>
<td>AK</td>
<td>19.0 66</td>
<td>1,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL</td>
<td>25.0 88</td>
<td>1,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KE</td>
<td>3.0 (65)</td>
<td>28.0 94</td>
<td>1,500</td>
<td>10.3 150</td>
</tr>
<tr>
<td>KKE</td>
<td>38.0 130</td>
<td>1,200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* ANSI = Inches / DIN = MM
** Cast Iron models have NPT ports, AS & AK models are 2.5"
**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**

- Packing
- Component Mechanical Seal

**PORTS**

- Opposite (180°)
- Flanged
- NPT

**MOUNTING**

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

**DRIVES**

- See chart on page 26 for drive options

**APPLICATIONS**

- Application examples are available on Pages 3 - 5.

**SERIES**

- 495, 4195, 493, 4193, 4197

---

### 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>G*</td>
<td>1.0</td>
<td>1.8 M³/Hr 8 GPM 3.5 RPM 8 BAR 17 PSI</td>
<td>1,800</td>
<td>17 250</td>
</tr>
<tr>
<td>GG</td>
<td>2</td>
<td>2 M³/Hr 10 GPM 7.5 RPM 15 BAR 20 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H*</td>
<td>1.5</td>
<td>3.5 M³/Hr 15 GPM 10 RPM 15 BAR 20 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HJ</td>
<td>1.5</td>
<td>4.5 M³/Hr 20 GPM 15 RPM 20 BAR 25 PSI</td>
<td>1,500</td>
<td>150 350</td>
</tr>
<tr>
<td>HL</td>
<td>1.5</td>
<td>7 M³/Hr 30 GPM 20 RPM 30 BAR 35 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS</td>
<td>2.5</td>
<td>10 M³/Hr 45 GPM 22.5 RPM 45 BAR 45 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AK</td>
<td>2.5</td>
<td>16 M³/Hr 70 GPM 30 RPM 70 BAR 70 PSI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL</td>
<td>3.0</td>
<td>21 M³/Hr 95 GPM 37.5 RPM 95 BAR 95 PSI</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Cast Iron only.

---

**CAPACITY**

To 21 M³/Hr (To 95 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
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 26 for drive options

**APPLICATIONS**
- Application examples are available on Pages 3 - 5.

**SERIES**
- 4076, 4176

---

**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>mm</td>
<td>M³/Hr</td>
<td>RPM</td>
<td>BAR</td>
</tr>
<tr>
<td>HLE</td>
<td>40</td>
<td>6</td>
<td>26</td>
<td>1,500</td>
</tr>
<tr>
<td>ATE</td>
<td>65</td>
<td>12</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>ALE</td>
<td>65</td>
<td>21</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>KE</td>
<td>80</td>
<td>29</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>KRE</td>
<td>80</td>
<td>38</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>LOE</td>
<td>100</td>
<td>45</td>
<td>200</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Integral relief valve is standard.

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

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

**VISCOSITY**
- 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
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. A proven design for handling slurries, paints, inks, filled asphalts, and other abrasive liquids.

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
  - 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 casing)

PORTS

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

MOUNTING

- Foot Mount

DRIVES

- See chart on page 26 for drive options

APPLICATIONS

- Application examples are available on Pages 3 - 6.

SERIES

- 4625

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)

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 0.75</td>
<td>870</td>
<td>7.0 100</td>
</tr>
<tr>
<td>FH</td>
<td>1.5</td>
<td>1.34 1.5</td>
<td>640</td>
<td>10.0 150</td>
</tr>
<tr>
<td>H</td>
<td>2.0</td>
<td>2.3 10</td>
<td>280</td>
<td>230 150</td>
</tr>
<tr>
<td>HL</td>
<td>5.6 25</td>
<td>5.6 25</td>
<td>280</td>
<td>230 150</td>
</tr>
<tr>
<td>K</td>
<td>7.9 35</td>
<td>7.9 35</td>
<td>280</td>
<td>230 150</td>
</tr>
<tr>
<td>LL</td>
<td>11.3 50</td>
<td>11.3 50</td>
<td>280</td>
<td>230 150</td>
</tr>
<tr>
<td>LQ</td>
<td>11.3 50</td>
<td>11.3 50</td>
<td>280</td>
<td>230 150</td>
</tr>
<tr>
<td>M</td>
<td>25 110</td>
<td>25 110</td>
<td>280</td>
<td>230 150</td>
</tr>
<tr>
<td>QS</td>
<td>36 160</td>
<td>36 160</td>
<td>280</td>
<td>230 150</td>
</tr>
</tbody>
</table>

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°)

MOUNTING
- Foot Mount

DRIVES
- See chart on page 26 for drive options

CAPACITY
To 14 M³/HR (To 60 GPM)

PRESSURE
To 3.5 BAR (To 50 PSI)

TEMPERATURE
Down to -40°C (-40°F)

APPLICATIONS
- Application examples are available on Pages 3 - 5.

 SERIES
- 4925

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°)

MOUNTING
- Foot Mount

DRIVES
- See chart on page 26 for drive options

CAPACITY
To 21 M³/HR (To 95 GPM)

PRESSURE
To 7 BAR (To 100 PSI)

TEMPERATURE
Down to -40°C (-40°F)

APPLICATIONS
- Application examples are available on Pages 3 - 5.

 SERIES
- 4195G, 4205G

SPECIAL LIQUID PUMPS - AMMONIA

SPECIAL LIQUID PUMPS - LP GAS

TABLE 1: PERFORMANCE - AMMONIA PUMPS

<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</td>
<td>GPM</td>
<td>RPM</td>
</tr>
<tr>
<td>HL</td>
<td>1.5</td>
<td>2</td>
<td>10</td>
<td>780</td>
</tr>
<tr>
<td>K</td>
<td>2.0</td>
<td>5</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>KK</td>
<td>2.0</td>
<td>7</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>LQ</td>
<td>2.5</td>
<td>11</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>LL</td>
<td>3.0</td>
<td>14</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 2: PERFORMANCE - LP GAS PUMPS

<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</td>
<td>GPM</td>
<td>RPM</td>
</tr>
<tr>
<td>GG</td>
<td>1.0</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>HJ</td>
<td>1.5</td>
<td>4</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>HL</td>
<td>1.5</td>
<td>6</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>AS</td>
<td>2.5</td>
<td>7</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>AK</td>
<td>2.5</td>
<td>10</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>AL</td>
<td>3.0</td>
<td>15</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>2.0</td>
<td>7</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>KK</td>
<td>2.0</td>
<td>9</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>3.0</td>
<td>17</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>LQ</td>
<td>3.0</td>
<td>17</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>LL</td>
<td>3.0</td>
<td>21</td>
<td>95</td>
<td></td>
</tr>
</tbody>
</table>

LP Gas pumps are UL listed for propane or butane liquid transfer applications.
Jacketed Pumps Designed Specifically for Asphalt 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 melts bitumen that has solidified in the 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
- 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
- Component Mechanical Seal

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

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

MOUNTING
- Foot Mount

DRIVES
- See chart on page 26 for drive options

APPLICATIONS
- Application examples are available on Pages 3 - 5.

SERIES
- General Purpose: 34, 434

CAPACITY
To 360 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
To +370 °C (To +700 °F)

PERFORMANCE - General Purpose

<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>H</td>
<td>1.5</td>
<td>5</td>
<td>20</td>
<td>1,200</td>
</tr>
<tr>
<td>HL</td>
<td>7</td>
<td>15</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td>K</td>
<td>2.0</td>
<td>10</td>
<td>50</td>
<td>420</td>
</tr>
<tr>
<td>KK</td>
<td>23</td>
<td>75</td>
<td>780</td>
<td>140</td>
</tr>
<tr>
<td>L</td>
<td>2.5</td>
<td>30</td>
<td>135</td>
<td>640</td>
</tr>
<tr>
<td>LQ</td>
<td>3.0</td>
<td>32</td>
<td>140</td>
<td>520</td>
</tr>
<tr>
<td>LL</td>
<td>4.0</td>
<td>68</td>
<td>300</td>
<td>520</td>
</tr>
<tr>
<td>LS</td>
<td>6.0</td>
<td>114</td>
<td>500</td>
<td>520</td>
</tr>
<tr>
<td>N</td>
<td>136</td>
<td>600</td>
<td>350</td>
<td>520</td>
</tr>
<tr>
<td>R</td>
<td>8.0</td>
<td>250</td>
<td>1,100</td>
<td>9,200</td>
</tr>
<tr>
<td>RS</td>
<td>10.0</td>
<td>365</td>
<td>1,600</td>
<td>9</td>
</tr>
</tbody>
</table>

PERFORMANCE - Heavy Duty

<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>H</td>
<td>1.5</td>
<td>3</td>
<td>15</td>
<td>1,800</td>
</tr>
<tr>
<td>HL</td>
<td>7</td>
<td>17</td>
<td>75</td>
<td>780</td>
</tr>
<tr>
<td>K</td>
<td>2.0</td>
<td>23</td>
<td>100</td>
<td>640</td>
</tr>
<tr>
<td>KK</td>
<td>30</td>
<td>135</td>
<td>640</td>
<td>520</td>
</tr>
<tr>
<td>L</td>
<td>32</td>
<td>140</td>
<td>450</td>
<td>520</td>
</tr>
<tr>
<td>LQ</td>
<td>4.0</td>
<td>68</td>
<td>300</td>
<td>520</td>
</tr>
<tr>
<td>LL</td>
<td>5.0</td>
<td>114</td>
<td>500</td>
<td>520</td>
</tr>
<tr>
<td>LS</td>
<td>6.0</td>
<td>136</td>
<td>600</td>
<td>350</td>
</tr>
<tr>
<td>Q</td>
<td>8.0</td>
<td>250</td>
<td>1,100</td>
<td>9</td>
</tr>
<tr>
<td>R</td>
<td>10.0</td>
<td>365</td>
<td>1,600</td>
<td>9,200</td>
</tr>
</tbody>
</table>
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
- 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

PORTS

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

MOUNTING

- Foot Mount
- Flange Mount (Closed-Coupled)

DRIVES

- See chart on page 26 for drive options

APPLICATIONS

- Application examples are available on Pages 3 - 5.

SERIES

- 32, 432, 56, 456, 75, 475

PERFORMANCE

Size Standard Port Nominal Capacity At Maximum Speed Maximum Speed Maximum Pressure

<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>C</td>
<td>0.25</td>
<td>0.11</td>
<td>0.5</td>
<td>1,800</td>
</tr>
<tr>
<td>F</td>
<td>0.5</td>
<td>0.34</td>
<td>1.5</td>
<td>1,800</td>
</tr>
<tr>
<td>FH</td>
<td>0.68</td>
<td>0.68</td>
<td>3.0</td>
<td>1,800</td>
</tr>
<tr>
<td>G</td>
<td>1.0</td>
<td>1.5</td>
<td>7.0</td>
<td>1,800</td>
</tr>
<tr>
<td>GG</td>
<td>2.0</td>
<td>2.0</td>
<td>10.0</td>
<td>1,800</td>
</tr>
<tr>
<td>H</td>
<td>1.5</td>
<td>3.5</td>
<td>15.0</td>
<td>1,800</td>
</tr>
<tr>
<td>HJ</td>
<td>4.5</td>
<td>4.5</td>
<td>20.0</td>
<td>1,800</td>
</tr>
<tr>
<td>HL</td>
<td>7.0</td>
<td>7.0</td>
<td>30.0</td>
<td>1,800</td>
</tr>
</tbody>
</table>

Integral pressure relief valve is standard.

Viking® Product Selection Guide 17
IRON EXTERNAL GEAR PUMPS

High Pressure, Precise Flow

Viking’s External Gear pumps are ideal for high-pressure applications running at motor speeds. Used in industrial applications such as chemical transfer and metering, filtering, packaging 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
- Precision machined components afford precise metering and flow control for increased process accuracy
- Variety of sealing options including sealless Viking Mag Drive® to prevent leakage
- 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 space or motor requirements
- Hardened gears and shafts offer long-life performance
- Needle bearings provide high pressure capabilities, other bearing options available.
- UL or NSF listing available on select models

MATERIALS
- Cast Iron
- Ductile Iron (SG-05 & SG-07 only)

SEALING
- Lip Seal
- Mechanical Seal (Component or Cartridge)
- Sealless Viking Mag Drive®

PORTS
- NPT
- SAE O-Ring
- BSP
- SAE Flange

MOUNTING
- Foot Mount
- Motor Mount (close-coupled) for IEC & NEMA Motors

DRIVES
- See chart on page 26 for drive options

APPLICATIONS
- Application examples are available on Pages 3 - 5.

SERIES
- SG

CAPACITY
To 43 M³/Hr (To 190 GPM)
Custom Pumps to 120 M³/Hr (To 530 GPM)

PRESSURE
To 34 BAR (To 500 PSI) — Continuous
To 170 BAR (To 2,500 PSI) — Intermittent

VISCOSITY
To 1,000,000 cSt

TEMPERATURE
-40°C to +260°C (-40°F to +500°F)

PERFORMANCE

<table>
<thead>
<tr>
<th>Size</th>
<th>Standard Port</th>
<th>Nominal Capacity At 1450 RPM</th>
<th>Nominal Capacity At 1750 RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LPM</td>
<td>GPM</td>
<td>LPM</td>
</tr>
<tr>
<td>SG-0417</td>
<td>0.19</td>
<td>0.05</td>
<td>0.23</td>
</tr>
<tr>
<td>SG-0418</td>
<td>0.44</td>
<td>0.12</td>
<td>0.53</td>
</tr>
<tr>
<td>SG-0425</td>
<td>0.56</td>
<td>0.15</td>
<td>0.68</td>
</tr>
<tr>
<td>SG-0435</td>
<td>0.85</td>
<td>0.22</td>
<td>1.02</td>
</tr>
<tr>
<td>SG-0450</td>
<td>1.13</td>
<td>0.30</td>
<td>1.36</td>
</tr>
<tr>
<td>SG-0470</td>
<td>1.57</td>
<td>0.41</td>
<td>1.89</td>
</tr>
<tr>
<td>SG-0518</td>
<td>2.2</td>
<td>0.58</td>
<td>2.6</td>
</tr>
<tr>
<td>SG-0525</td>
<td>3.1</td>
<td>0.83</td>
<td>3.8</td>
</tr>
<tr>
<td>SG-0535</td>
<td>4.4</td>
<td>1.16</td>
<td>5.3</td>
</tr>
<tr>
<td>SG-0550</td>
<td>6.3</td>
<td>1.66</td>
<td>7.6</td>
</tr>
<tr>
<td>SG-0570</td>
<td>8.8</td>
<td>2.32</td>
<td>10.6</td>
</tr>
<tr>
<td>SG-0510</td>
<td>12.5</td>
<td>3.31</td>
<td>15.1</td>
</tr>
<tr>
<td>SG-0514</td>
<td>17.6</td>
<td>4.64</td>
<td>21.2</td>
</tr>
<tr>
<td>SG-0519</td>
<td>23.8</td>
<td>6.30</td>
<td>28.8</td>
</tr>
<tr>
<td>SG-0528</td>
<td>35.1</td>
<td>9.28</td>
<td>42.4</td>
</tr>
<tr>
<td>SG-0728</td>
<td>8.8</td>
<td>2.3</td>
<td>10.6</td>
</tr>
<tr>
<td>SG-0741</td>
<td>12.5</td>
<td>3.3</td>
<td>15.1</td>
</tr>
<tr>
<td>SG-0758</td>
<td>17.6</td>
<td>4.6</td>
<td>21.2</td>
</tr>
<tr>
<td>SG-0782</td>
<td>25.1</td>
<td>6.6</td>
<td>30.3</td>
</tr>
<tr>
<td>SG-0711</td>
<td>35.1</td>
<td>9.3</td>
<td>42.4</td>
</tr>
<tr>
<td>SG-0716</td>
<td>50.0</td>
<td>13.0</td>
<td>61.0</td>
</tr>
<tr>
<td>SG-0722</td>
<td>69.0</td>
<td>18.0</td>
<td>83.0</td>
</tr>
<tr>
<td>SG-0732</td>
<td>100.0</td>
<td>26.0</td>
<td>121.0</td>
</tr>
<tr>
<td>SG-1009</td>
<td>50.0</td>
<td>13.0</td>
<td>61.0</td>
</tr>
<tr>
<td>SG-1013</td>
<td>78.0</td>
<td>21.0</td>
<td>95.0</td>
</tr>
<tr>
<td>SG-1026</td>
<td>157.0</td>
<td>41.0</td>
<td>189.0</td>
</tr>
<tr>
<td>SG-1420</td>
<td>220.0</td>
<td>58.0</td>
<td>265.0</td>
</tr>
<tr>
<td>SG-1436</td>
<td>392.0</td>
<td>104.0</td>
<td>473.0</td>
</tr>
<tr>
<td>SG-1456</td>
<td>598.0</td>
<td>158.0</td>
<td>719.0</td>
</tr>
</tbody>
</table>

Integral pressure relief valve (standard single pump).
① SG-05 models available with UL listing for fuel oil.
COMPOSITE EXTERNAL GEAR PUMPS

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
- 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)
- Internal relief valve standard (VI-CORR)

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

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

PORTS
- NPT
- Flanged (ANSI or DIN)

MOUNTING
- Motor Mount
- Foot Mount (CMD)

DRIVES
- See chart on page 26 for drive options

APPLICATIONS
- Application examples are available on Pages 3 - 5.

SERIES
- Composite Mag Drive: CMD
- VI-CORR: RP

**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>
<tr>
<td></td>
<td>Inches</td>
<td>1,500 RPM GPM</td>
<td>LPM</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>
<td>5.5</td>
<td>21.0</td>
</tr>
<tr>
<td>75</td>
<td>1-1/2</td>
<td>16.5</td>
<td>62.5</td>
</tr>
<tr>
<td>125</td>
<td>1-1/2</td>
<td>27</td>
<td>104</td>
</tr>
</tbody>
</table>

In-line valve sold separately.

**PERFORMANCE - VI-CORR RP 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>
<tr>
<td></td>
<td>Inches</td>
<td>1,500 RPM GPM</td>
<td>LPM</td>
</tr>
<tr>
<td>RP-0782</td>
<td>2</td>
<td>6.6</td>
<td>25.1</td>
</tr>
<tr>
<td>RP-0716</td>
<td>2</td>
<td>13.3</td>
<td>50.2</td>
</tr>
<tr>
<td>RP-0724</td>
<td>2</td>
<td>19.9</td>
<td>75.3</td>
</tr>
<tr>
<td>RP-0732</td>
<td>2</td>
<td>26.5</td>
<td>100.4</td>
</tr>
</tbody>
</table>

Integral relief valve is standard.

**CAPACITY**
- To 125 LPM (To 33 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)
VAN PUMPS

Vane Pumps for Corrosive, Thin Liquids at Higher Pressures

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.

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 to conform to international standards for enhanced application flexibility

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 017/027 only)
- Foot Mount

DRIVES
- See chart on page 26 for drive options

APPLICATIONS
- Application examples are available on Pages 3 - 5.

SERIES
- LVP

<table>
<thead>
<tr>
<th>PERFORMANCE</th>
<th>STAINLESS STEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>LVP40017</td>
</tr>
<tr>
<td>Standard Port</td>
<td>40 (1.5)</td>
</tr>
<tr>
<td>Nominal Capacity At Maximum Speed</td>
<td>4 M³/Hr</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>20 GPM</td>
</tr>
<tr>
<td>Maximum Pressure</td>
<td>1,800 RPM</td>
</tr>
<tr>
<td>Pressure BAR</td>
<td>14</td>
</tr>
<tr>
<td>PSI</td>
<td>200</td>
</tr>
<tr>
<td>Size</td>
<td>LVP40027</td>
</tr>
<tr>
<td>Standard Port</td>
<td>9</td>
</tr>
<tr>
<td>Nominal Capacity At Maximum Speed</td>
<td>9 M³/Hr</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>40 GPM</td>
</tr>
<tr>
<td>Maximum Pressure</td>
<td>1,200 RPM</td>
</tr>
<tr>
<td>Pressure BAR</td>
<td>50</td>
</tr>
<tr>
<td>PSI</td>
<td>720</td>
</tr>
<tr>
<td>Size</td>
<td>LVP41057</td>
</tr>
<tr>
<td>Standard Port</td>
<td>15</td>
</tr>
<tr>
<td>Nominal Capacity At Maximum Speed</td>
<td>15 M³/Hr</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>80 GPM</td>
</tr>
<tr>
<td>Maximum Pressure</td>
<td>1,000 RPM</td>
</tr>
<tr>
<td>Pressure BAR</td>
<td>50</td>
</tr>
<tr>
<td>PSI</td>
<td>720</td>
</tr>
<tr>
<td>Size</td>
<td>LVP41067</td>
</tr>
<tr>
<td>Standard Port</td>
<td>23</td>
</tr>
<tr>
<td>Nominal Capacity At Maximum Speed</td>
<td>23 M³/Hr</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>100 GPM</td>
</tr>
<tr>
<td>Maximum Pressure</td>
<td>1,000 RPM</td>
</tr>
<tr>
<td>Pressure BAR</td>
<td>50</td>
</tr>
<tr>
<td>PSI</td>
<td>720</td>
</tr>
<tr>
<td>Size</td>
<td>LVP41197</td>
</tr>
<tr>
<td>Standard Port</td>
<td>29</td>
</tr>
<tr>
<td>Nominal Capacity At Maximum Speed</td>
<td>29 M³/Hr</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>125 GPM</td>
</tr>
<tr>
<td>Maximum Pressure</td>
<td>520 RPM</td>
</tr>
<tr>
<td>Pressure BAR</td>
<td>36</td>
</tr>
<tr>
<td>PSI</td>
<td>520</td>
</tr>
<tr>
<td>Size</td>
<td>LVP41237</td>
</tr>
<tr>
<td>Standard Port</td>
<td>36</td>
</tr>
<tr>
<td>Nominal Capacity At Maximum Speed</td>
<td>36 M³/Hr</td>
</tr>
<tr>
<td>Maximum Speed</td>
<td>160 GPM</td>
</tr>
<tr>
<td>Maximum Pressure</td>
<td>50</td>
</tr>
<tr>
<td>Pressure BAR</td>
<td>36</td>
</tr>
<tr>
<td>PSI</td>
<td>520</td>
</tr>
</tbody>
</table>

Integral pressure relief valve is standard.
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

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, 105 GPM</td>
<td>640 RPM</td>
<td>27 BAR, 400 PSI</td>
</tr>
<tr>
<td>RL025</td>
<td>36.3 M³/Hr, 160 GPM</td>
<td>820 RPM</td>
<td>600 BAR, 400 PSI</td>
<td></td>
</tr>
<tr>
<td>RL150</td>
<td>186.0 M³/Hr, 820 GPM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 26 for drive options

APPLICATIONS
- Application examples are available on Pages 3 - 5.

SERIES
- RL

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.
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
- Threaded, 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
- Threaded
- Grooved

### BASKET MESH OPTIONS

<table>
<thead>
<tr>
<th>Mesh</th>
<th>3/16&quot; Holes</th>
<th>10</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening (microns)</td>
<td>-</td>
<td>1.910</td>
<td>860</td>
<td>380</td>
<td>230</td>
<td>190</td>
<td>140</td>
</tr>
<tr>
<td>Opening (in.)</td>
<td>-</td>
<td>0.075</td>
<td>0.034</td>
<td>0.015</td>
<td>0.0092</td>
<td>0.007</td>
<td>0.0055</td>
</tr>
</tbody>
</table>

### PERFORMANCE

<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>
<tr>
<td>F-1020</td>
<td>2.0</td>
<td>23</td>
<td>100</td>
<td>14.0</td>
</tr>
<tr>
<td>F-1030</td>
<td>3.0</td>
<td>45</td>
<td>200</td>
<td>8.5</td>
</tr>
<tr>
<td>F-1040</td>
<td>4.0</td>
<td>91</td>
<td>400</td>
<td>14.0</td>
</tr>
<tr>
<td>F-1007</td>
<td>0.75</td>
<td>5</td>
<td>20</td>
<td>8.5</td>
</tr>
<tr>
<td>F-1010</td>
<td>1.0</td>
<td>7</td>
<td>30</td>
<td>14.0</td>
</tr>
<tr>
<td>F-1013</td>
<td>1.25</td>
<td>9</td>
<td>40</td>
<td>5.0</td>
</tr>
<tr>
<td>F-1015</td>
<td>1.5</td>
<td>11</td>
<td>50</td>
<td>8.5</td>
</tr>
<tr>
<td>F-1020</td>
<td>2.0</td>
<td>23</td>
<td>100</td>
<td>14.0</td>
</tr>
<tr>
<td>F-1030</td>
<td>3.0</td>
<td>45</td>
<td>200</td>
<td>8.5</td>
</tr>
<tr>
<td>F-1040</td>
<td>4.0</td>
<td>91</td>
<td>400</td>
<td>14.0</td>
</tr>
<tr>
<td>F-1060</td>
<td>6.0</td>
<td>182</td>
<td>800</td>
<td>5.0</td>
</tr>
<tr>
<td>F-1080</td>
<td>8.0</td>
<td>340</td>
<td>1,500</td>
<td>8.5</td>
</tr>
<tr>
<td>F-1007</td>
<td>0.75</td>
<td>5</td>
<td>20</td>
<td>14.0</td>
</tr>
<tr>
<td>F-1010</td>
<td>1.0</td>
<td>7</td>
<td>30</td>
<td>8.5</td>
</tr>
<tr>
<td>F-1013</td>
<td>1.25</td>
<td>9</td>
<td>40</td>
<td>14.0</td>
</tr>
<tr>
<td>F-1015</td>
<td>1.5</td>
<td>11</td>
<td>50</td>
<td>5.0</td>
</tr>
<tr>
<td>F-1020</td>
<td>2.0</td>
<td>23</td>
<td>100</td>
<td>8.5</td>
</tr>
<tr>
<td>F-1030</td>
<td>3.0</td>
<td>45</td>
<td>200</td>
<td>14.0</td>
</tr>
<tr>
<td>F-1040</td>
<td>4.0</td>
<td>91</td>
<td>400</td>
<td>5.0</td>
</tr>
<tr>
<td>F-1060</td>
<td>6.0</td>
<td>182</td>
<td>800</td>
<td>8.5</td>
</tr>
<tr>
<td>F-1080</td>
<td>8.0</td>
<td>340</td>
<td>1,500</td>
<td>5.0</td>
</tr>
</tbody>
</table>

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

**OPTIONS**
- Magnetic Inserts
- Differential Pressure Indicators

**PORTS**
- Flanged
- Threaded
- Grooved

**CAPACITY**
- To 250 M³/Hr (To 1,100 GPM)

**PRESSURE**
- To 14 BAR (To 200 PSI)

**VISCOITY**
- To 55,000 cSt (To 250,000 SSU)

**TEMPERATURE**
- -51°C to +260°C (-60°F to +500°F)
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
- Ratios are fully interchangeable in each gearbox
- Multiple mounting brackets to match Viking shaft heights

### PERFORMANCE

<table>
<thead>
<tr>
<th>PERFORMANCE</th>
<th>50 Hz</th>
<th>60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>With 1450 RPM Input</td>
<td>With 950 RPM Input</td>
<td>With 1750 RPM Input</td>
</tr>
<tr>
<td>kW Range</td>
<td>Output RPM Range</td>
<td>kW Range</td>
</tr>
<tr>
<td><strong>OFFSET</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>4</td>
<td>2.24:1 to 4.17:1</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>1.87:1 to 7.65:1</td>
</tr>
<tr>
<td>C</td>
<td>7</td>
<td>2.21:1 to 7.95:1</td>
</tr>
<tr>
<td>11</td>
<td>15</td>
<td>2.77:1 to 22.90:1</td>
</tr>
<tr>
<td>21</td>
<td>15</td>
<td>2.72:1 to 21.90:1</td>
</tr>
<tr>
<td>31</td>
<td>15</td>
<td>2.88:1 to 22.60:1</td>
</tr>
<tr>
<td>35</td>
<td>14</td>
<td>2.69:1 to 19.00:1</td>
</tr>
<tr>
<td>41</td>
<td>18</td>
<td>2.69:1 to 31.40:1</td>
</tr>
<tr>
<td>51</td>
<td>18</td>
<td>2.63:1 to 33.00:1</td>
</tr>
<tr>
<td>61</td>
<td>20</td>
<td>2.82:1 to 38.00:1</td>
</tr>
<tr>
<td>70</td>
<td>16</td>
<td>4.57:1 to 34.70:1</td>
</tr>
<tr>
<td>80</td>
<td>17</td>
<td>5.64:1 to 31.30:1</td>
</tr>
<tr>
<td>90</td>
<td>19</td>
<td>5.17:1 to 35.10:1</td>
</tr>
<tr>
<td>100</td>
<td>17</td>
<td>4.92:1 to 29.60:1</td>
</tr>
</tbody>
</table>
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
- ISO9001:2008 documented quality manufacturing processes

CUSTOM SOLUTIONS
Customer Specific Designs to Solve Unique Challenges
DUPLEX FUEL OIL SETS

Factory Built and Tested Solutions for Smooth, Reliable Startup and Operation

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 fuel sets built custom to your order
- UL-CSA electrical control panels
- Easy sizing with 8-Step Selection Program, available on CD
- Available with standard or UL-listed rated pumps
- Quick access comparison sheets, specification sheets, illustration drawings and P&ID drawings
- Over 25 years experience engineering and manufacturing duplex fuel oil sets

STANDARD EQUIPMENT

- 2 - Viking heavy duty positive displacement gear pumps
- 2 - TEFC Motors
- 1 - Heavy gauge steel baseplate with drip lip and drain

SUCTION LINE

- 2 - Viking Lid-Ease basket strainers
- 2 - Ball valves
- 2 - Compound gauges with gauge valves

DISCHARGE LINE

- 3 - Check valves
- 2 - Ball valves
- 2 - Relief valves
- 2 - Pressure gauges with gauge valves

APPLICATIONS

- Fueling diesel generators for backup electrical power generation
- Fuel oil transfer from storage to day tank
- Boosting low pressure fuel oil on oil-fired boilers and oil-fired furnaces
- Oil filtration recirculation to ensure clean and/or water-free oil

OPTIONS

- Pressure switches
- Pressure control valves
- Flow switches
- Thermometers
- Flexible connectors
- Water removal filters
- Galvanized base plates
- Flow meters and totalizers
- Control panels
- In-line or side-by-side mounting

CAPACITY

- Suction/Disharge Piping: 0.3 to 34 BAR (5 to 500 PSI)
- Larger capacities available, consult factory.

PRESSURE

- 0.3 to 34 BAR (5 to 500 PSI)
- 3 to 2,500 cSt (38 to 25,000 SSU)
- -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>Suction Header</th>
<th>Discharge Header</th>
<th>Relief To Tank</th>
<th>Nominal Pump Rating</th>
<th>Max. Recomm. Discharge Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>DF- F432</td>
<td></td>
<td>1”</td>
<td>1/2”</td>
<td>1/2”</td>
<td>1.2</td>
<td>250</td>
</tr>
<tr>
<td>DFH F432</td>
<td></td>
<td>1/2”</td>
<td>1/2”</td>
<td>1/2”</td>
<td>1.8</td>
<td>150</td>
</tr>
<tr>
<td>GGD GG4195</td>
<td></td>
<td>1”</td>
<td>1”</td>
<td>3/4”</td>
<td>3.1</td>
<td>150</td>
</tr>
<tr>
<td>HJD HJ4195</td>
<td></td>
<td>1-1/2”</td>
<td>1-1/2”</td>
<td>1”</td>
<td>14.7</td>
<td>150</td>
</tr>
<tr>
<td>HLD HL4195</td>
<td></td>
<td>1-1/2”</td>
<td>1-1/2”</td>
<td>1”</td>
<td>22.7</td>
<td>150</td>
</tr>
<tr>
<td>ASD AS4195</td>
<td></td>
<td>2-1/2”</td>
<td>2-1/2”</td>
<td>1-1/2”</td>
<td>37.0</td>
<td>150</td>
</tr>
<tr>
<td>AKD AK4195</td>
<td></td>
<td>3”</td>
<td>3”</td>
<td>2”</td>
<td>75.2</td>
<td>150</td>
</tr>
<tr>
<td>ALD AL4195</td>
<td></td>
<td>3”</td>
<td>3”</td>
<td>2”</td>
<td>84.7</td>
<td>150</td>
</tr>
</tbody>
</table>

| Viskosity (cSt) | 250 150 100 50 25 10 5 2 1 0.5 0.2 0.05 0.01 |
| X25 SG-0525     | 20.7 10.3 5.6 2.8 1.4 0.7 0.3 0.1 0.05 0.02 0.01 |
| X50 SG-0550     | 32.6 16.2 8.1 4.1 2.0 1.0 0.5 0.2 0.1 0.05 0.02 0.01 |
| X100 SG-0716    | 65.0 32.6 16.2 8.1 4.1 2.0 1.0 0.5 0.2 0.1 0.05 0.02 0.01 |

| Pressure (PSI) | 250 150 100 50 25 10 5 2 1 0.5 0.2 0.05 0.01 |
| X25 SG-0525     | 20.7 10.3 5.6 2.8 1.4 0.7 0.3 0.1 0.05 0.02 0.01 |
| X50 SG-0550     | 32.6 16.2 8.1 4.1 2.0 1.0 0.5 0.2 0.1 0.05 0.02 0.01 |
| X100 SG-0716    | 65.0 32.6 16.2 8.1 4.1 2.0 1.0 0.5 0.2 0.1 0.05 0.02 0.01 |

Viking® Product Selection Guide 25
System Integration, Simplified Installation

Viking offers a variety of factory-assembled skid-, bracket- or motor-mount options to help simplify installation, alignment, and commissioning.

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

SPECIFIC DRIVES

System Integration, Simplified Installation

Viking offers a variety of factory-assembled skid-, bracket- or motor-mount options to help simplify installation, alignment, and commissioning.

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

SPECIFIC DRIVES

“B” DRIVE
Bracket Mounted

“D” DRIVE
Direct Connected to Standard Motor, Variable Speed Drive, or Gear Head Motor

“M” DRIVE
Motor Mounted

“P” DRIVE
Purchased Gear Reducer

“R” DRIVE
Viking Offset Gear Reducer

“V” DRIVE
V-Belt

“IM” DRIVE
Vertical Inline Mounted

PERFORMANCE

<table>
<thead>
<tr>
<th>PUMP SERIES</th>
<th>Drive Style</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R</td>
</tr>
<tr>
<td>INTERNAL GEAR</td>
<td></td>
</tr>
<tr>
<td>Industrial-Duty Pumps</td>
<td></td>
</tr>
<tr>
<td>Universal Seal &amp; UMD</td>
<td>■</td>
</tr>
<tr>
<td>Jacketed Universal Seal</td>
<td>■</td>
</tr>
<tr>
<td>Motor Speed (Metric)</td>
<td>■</td>
</tr>
<tr>
<td>Motor Speed</td>
<td>■</td>
</tr>
<tr>
<td>General Purpose Pumps</td>
<td>■</td>
</tr>
<tr>
<td>Special Purpose</td>
<td>■</td>
</tr>
<tr>
<td>Abrasive Liquids</td>
<td></td>
</tr>
<tr>
<td>Ammonia</td>
<td></td>
</tr>
<tr>
<td>Asphalt</td>
<td></td>
</tr>
<tr>
<td>LP Gas</td>
<td></td>
</tr>
<tr>
<td>EXTERNAL GEAR</td>
<td></td>
</tr>
<tr>
<td>Sealed</td>
<td></td>
</tr>
<tr>
<td>Spur Gear</td>
<td>■</td>
</tr>
<tr>
<td>Sealless</td>
<td></td>
</tr>
<tr>
<td>Mag Drive Spur Gear</td>
<td>■</td>
</tr>
<tr>
<td>VANE</td>
<td></td>
</tr>
<tr>
<td>LVP Vane</td>
<td>■</td>
</tr>
<tr>
<td>LOBE</td>
<td></td>
</tr>
<tr>
<td>Industrial Lobe</td>
<td>■</td>
</tr>
</tbody>
</table>

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.
**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.vikingpumpeurope.co.uk

**LATIN AMERICA**
Mexico D.F., C.P.
Phone: +52 (55) 5255-1357
Fax: +52 (55) 5255-1358

Brazil - Sao Paulo
Phone: +55 (11) 3872-3602
Fax: +55 (11) 3872-6400

**MIDDLE EAST**
IDEX Middle East FZE
Dubai, UAE
Phone: +971-4-269-1096
Fax: +971-4-299-1059
www.idexfmt-asia.com

**ASIA-PACIFIC GROUP**

Singapore
Phone: +65-6763-4633
Fax: +65-6764-4030
www.idexfmt-asia.com

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

China - Beijing
Phone: +86-10-6557-6532
Fax: +86-10-6557-7276
www.idexfmt-asia.com

India - Mumbai
Phone: +91-22-66976634
Fax: +91-9820334270
www.idexfmt-asia.com

Korea - Seoul
Phone: +82-2-501-3302
Fax: +82-2-556-0788
www.idexfmt-asia.com

Australia & New Zealand
Phone: +61 2 4577 4534
Fax: +61 2 4577 5987
www.idexfmt-asia.com