INTERNAL GEAR PUMPS
UNIVERSAL MAG DRIVE

DIMENSIONALLY INTERCHANGEABLE, SEALLESS MAG DRIVE PUMPS FOR CRUCIAL LIQUID CONTAINMENT APPLICATIONS

Capacity
to 500 GPM (114 m³/h)

Viscosity
28 to 250,000 SSU (55,000 cSt)

Pressure
to 200 PSI (14 BAR)

Temperature
-120°F to +500°F (-85°C to +260°C)

VIKING PUMP
A Unit of IDEX Corporation
The Universal Mag Drive series can reduce maintenance and environmental costs through eliminating the pump shaft seal. Simply by eliminating the pump shaft seal, the Universal Mag Drive can save you more than 50% of the total pump, parts and downtime cost in one year.

Assuming the cost of:
- Spare mechanical seal
- Mechanical seal accessories
- Two seal replacements and repairs yearly
- Unplanned downtime

• Lost production
• Lost process revenue at $1,000 per hour
• Potential EPA fines for leaks and/or spills

Universal Mag Drive Value vs. Mechanical Seal Pumps

A customized scenario needs to be adapted to fit each customer’s application and operating parameters. The accuracy of the calculated savings depends upon the accuracy of customer supplied data. Note that pump configuration and materials used for pumps varies with application. In addition, pumps should only be used for the particular application with the particular liquids specified when pumps are ordered.

The Universal Mag Drive eliminates shaft seals on hard to seal liquids, reducing downtime and maintenance costs associated with seal failures and replacements.

Typical Markets & Applications
- Petrochemicals
- Isocyanate
- Polyol
- Monomers
- Resins
- Adhesives
- Sodium Hydroxide
- Paints & Coatings
- Printing
- Solvents
- Petroleum & Additives
- Biofuels
- Oil Seeds

First Year Cost of Ownership

Two Seal Failures & Repairs

Pump Cost

Universal Mag Drive

Standard Pump with Single Cartridge Seal

Standard Pump with Double Cartridge Seal

Universal Mag Drive Value

Standard Pump with Double Cartridge Seal

Model Number Key

<table>
<thead>
<tr>
<th>LS</th>
<th>8</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>A-325</th>
<th>R</th>
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</table>

- Size: H, HL, K, KK, L, LQ, LL, LS, Q, QS
- Shaft Sealing: 8 = Sealless
- Basic Series Configuration
- Series Edition: A = Original Design
- Jacketing: 1 = Non-Jacketed Bracket
- Material of Construction:
  - 3 = Steel Externals
  - 4 = Cast Iron
  - 7 = Stainless Steel
- Material of Construction:
  - H-HL = 40 Ft-lb
  - K-KK = 90 Ft-lb
  - K-KK = 180 Ft-lb
  - L-LS = 325 Ft-lb
  - Q-QS = 425 Ft-lb
  - Q-QS = 900 Ft-lb
- Drive Configurations:
  - Blank = Pump Only
  - D = Direct Drive
  - R = Reducer Drive
  - P = Purchased Reducer
FEATURES & BENEFITS

ADVANCED DURABILITY

- **Proven Design**
  Proven in thousands of tough applications around the world. Simple design minimizes service requirements while providing unmatched durability and reliability.

- **3-Year Limited Warranty**
  Best in class warranty that covers workmanship and materials. Warranty provides greater peace of mind.

- **Heavy Duty Bearings and Bushings**
  Proven, rugged pump design equipped with heavy-duty bearings and bushings. Provides enhanced shaft support extending pump and in-canister bushing life.

- **Innovative Magnet Design**
  Inner magnet is encapsulated in a laser welded stainless steel canister. One-piece design eliminates O-ring seal, extends pump life and eliminates seal maintenance.

EASY INSTALLATION

- **Dimensionally Interchangeable**
  Proven, dimensionally interchangeable design for Viking’s Universal Seal and Heavy-Duty Bracketed pumps as well as competitive pumps that duplicate Viking’s footprint. Provides simple solution for upgrading existing pumps, utilizing existing reducer, motor, coupling, guard, wiring and base.

- **Multiple Port Configurations**
  Multiple port sizes, types and ratings are available including threaded and flanged. Provides an easy solution to match customer requirements for quick, easy installation.

- **Rotatable Casing**
  Universal Mag Drive pumps are equipped with casings that can be positioned to meet common piping configurations, including 90° and opposite porting. Shortens and simplifies installation with no special tools required for quick installation.

- **No Special Tools Required**
  Jack bolts for coupling disassembly are standard with the pump. Simplifies maintenance and reduces planned downtime.

- **Drive Options**
  Multiple drive options are available including reducer, and variable speed drive. Drive configurations provide easy solutions to match customer requirements for quick, easy installation.

- **Lifting Lug Included**
  Allows for easier pump handling when installing, removing or disassembling pump. Simplifies installation.

APPLICATION FLEXIBILITY

- **Externally Adjustable Relief Valve**
  Relief valve can be adjusted without disassembly when process conditions change. Provides maximum process up-time.

- **Multiple Material Options**
  Wide array of pump construction materials available for internal and external components allow broad chemical and temperature compatibility on lubricating and non-lubricating liquids to match your application need. Custom configured pumps lengthen the life of the pump for lower total cost of ownership.

- **Short-Term Run-Dry Capability**
  Short-term run-dry capability is possible due to state of the art design and magnet technology. Protects the pump during priming and accidental empty-tank situations.

- **Bi-directional Pump Design**
  Bi-directional pumping design eliminates cost of a second pump and the piping needed for loading or unloading or line stripping. Provides application flexibility and reduces system costs.

- **Adjustable End Clearance**
  Allows the pump to be adjusted for different viscosities and temperatures if process changes, increasing productivity. Maximizes pump efficiency, extending life.

LOWER COST OF OWNERSHIP

- **Dual Thrust Control Washers**
  Positive control of rotor position for more accurate flow, also reduces pump wear. Provides lower life cycle costs and improves process control capability.

- **Optimized Efficiency**
  Proven, optimized gear and pump geometry maximizes overall efficiency. Reduces product operating cost, providing a lower total cost of ownership.

- **Relief Valve, Standard**
  Pumps come with an adjustable internal pressure relief valve on standard design (jacketed pressure relief valves also available). Protects pump from over-pressure.

- **Higher Pressure Capabilities**
  Thrust control, enhanced shaft support and a wide selection of materials permits higher pressure capabilities. Permits single pump standardization for multiple liquids and applications.
MATERIALS OF CONSTRUCTION

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<tr>
<th>Component</th>
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- KK, LS, and QS sizes have a ductile iron rotor. ASTM A55 Grade 60-40-15.
- H and HL sizes have powdered metal idler. MPIF std 33 FC-0208-50.
- Steel fitted Q and QS sizes have steel idler.
- Q and QS contains two sets of thrust washers, one set is carbon graphite or standard.
- Consult factory for more options.

VIKINGPUMP.COM
Viking Pump has been a global leader in positive displacement pumping solutions since 1911. With a vertically integrated manufacturing process, we have the tools, processes and systems to produce our products in-house; from the initial engineering analysis, through design layout, foundry casting, machining, final assembly, testing and shipping. Viking pumps are uniquely designed for the task at hand, from simple solutions to your most advanced and demanding needs.

**Dimensionally Interchangeable Design**

The Universal Mag Drive series provides a dimensionally interchangeable footprint with the Viking’s Universal Seal, Heavy-Duty Bracketed and other similar manufacturer’s pumps. This allows for an easy upgrade from packing or mechanical seals to sealless Mag Drive technology, providing the highest level of liquid containment available in the marketplace today.