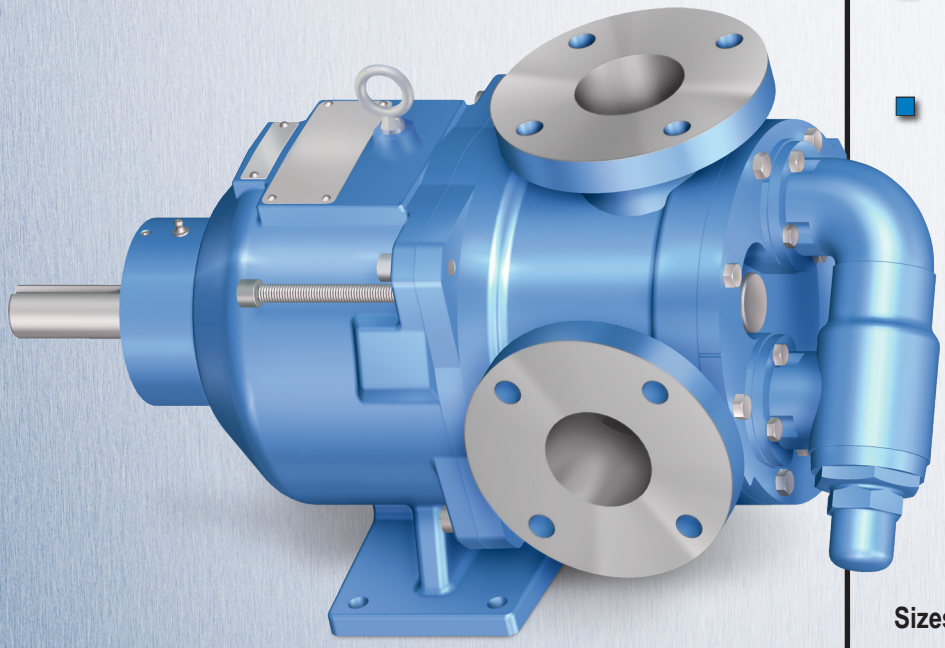
VIKING PUMP
A Unit of IDEX Corporation

Viking® Mag Drive Pumps

Dimensionally Interchangeable, Sealless Mag Drive Pumps for Crucial Liquid Containment Applications



UNIVERSAL IMAG DRIVE



- Eliminates pump seal maintenance
- Eliminates repiping with dimensionally interchangeable design
- Highest level of liquid containment available
- Multiple port sizes, types & ratings available

3 Year Warranty

Sizes in Series: 5
Capacity to 45 M³/Hr (200 GPM)
Pressure to 14 Bar (200 PSI)
Viscosity 1 to 55,000 cSt (28 to 250,000 SSU)
Temperature -84°C to +260°C (-120°F to +500°F)

IDEX CORPORATION

Viking® Advantages

Performance

- No packing or mechanical seals means no seal failure or replacement
- Easily handles both high and low viscosity fluids
- Reduce material loss, contamination and general housekeeping
- Simple design, easy to maintain
- Proven reliability, 100 years of experience

Technology

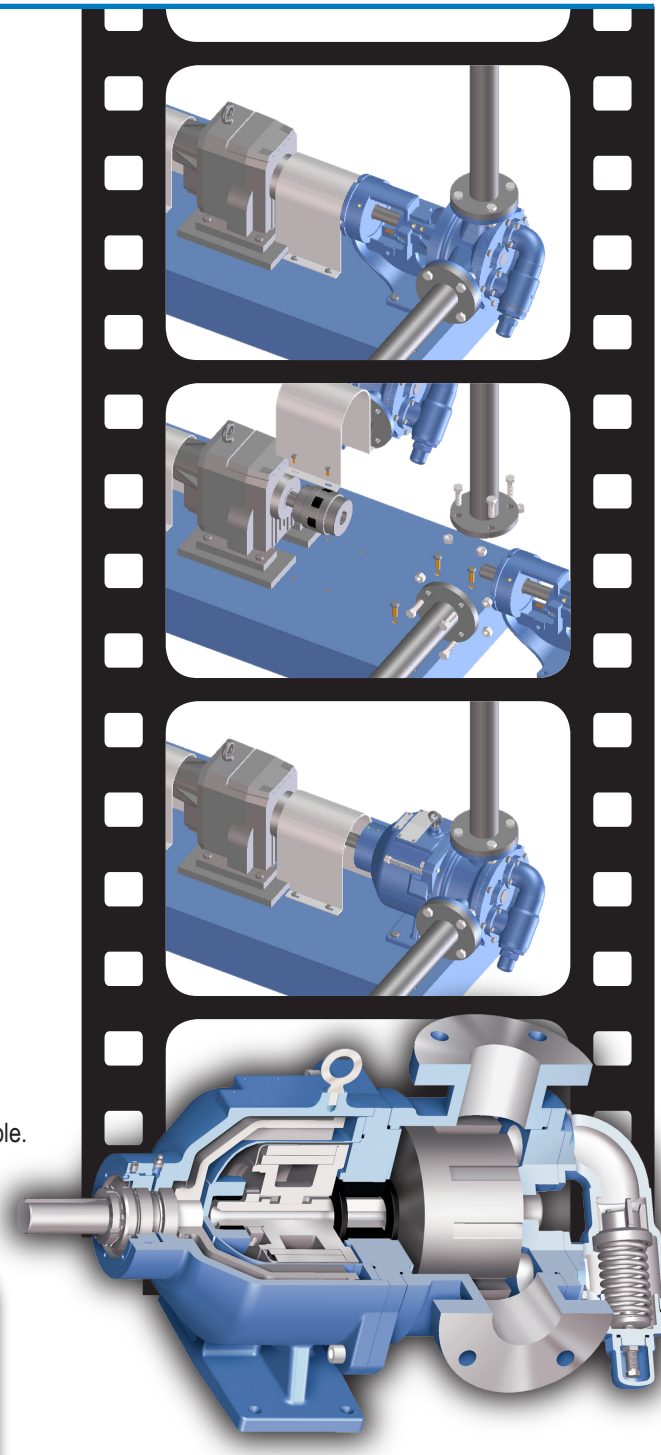
- Dimensionally interchangeable with Viking's Universal Seal and Heavy Duty pumps
- Proven sealless design
- Simple solution for upgrading existing pumps
- Short-term, dry-run capabilities for easy line clearing or emptying tanks without damaging pump
- Viking developed the 1st commercially available internal gear mag drive pump

Productivity

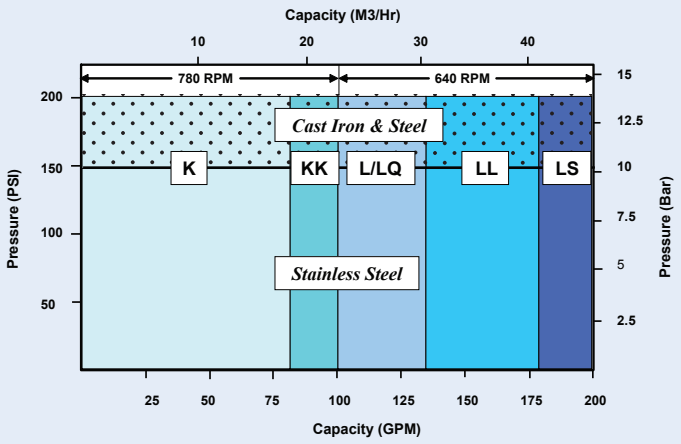
- Highest level of liquid containment available
- Eliminates downtime due to seal replacement
- Local inventory and support worldwide
- Bi-directional pump design for enhanced application flexibility
- Lower life cycle cost
- 3 year warranty

Available Options

- Multiple Port Sizes, Types and Ratings available Including Threaded, Raised, and Flat-face Flanged
- Jacketing Options available for Critical Areas of pump Including the Casing, Head and Relief Valve
- Materials of construction: steel, stainless steel, and cast iron
- Special construction options for bushings, shaft, pin & clearances available.
- Other options include: protective devices; temperature probe; low flow detectors; casing & canister drains; and gauge ports



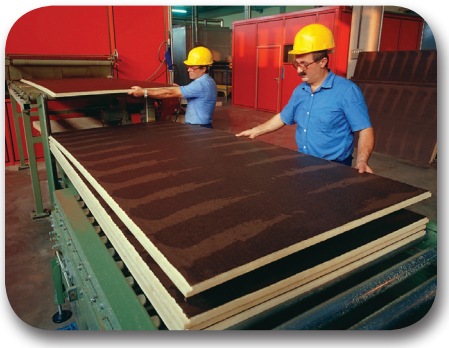
Performance Envelope



The Universal Mag Drive provides a dimensionally interchangeable footprint with the Viking's Universal Seal and Heavy Duty pumps. This allows for an easy upgrade from packed or mechanical seals to sealless Mag Drive technology, providing the highest level of liquid containment available today.

Applications

Hard-to-Seal Liquids



Shaft seal leakage is the number one cause of pump downtime and maintenance. Shaft seals wear faster when liquid, air and heat combine at the seal to cause chemical reactions, like:

- **Crystallization** (e.g. isocyanates). Abrasive crystals cause premature wear.
- **Sticking** (e.g. adhesives, epoxy resins, paints). Seal faces bond when pump stops, and fails at startup.
- **Varnishing** (e.g. petroleum products). Layer builds up on seal faces causing separation.

Typical Applications:

- **Isocyanates**
- **Sodium Hydroxide**
- **Adhesives**
- **Epoxy Resins**

Hazardous & Reactive Liquids



Shaft seals can allow liquids and vapors out, causing hazardous exposure, and can allow air in, causing unwanted chemical reactions. Traditional sealed pumps, including flushing, quenching and barrier fluids, are subject to the same failures as standard seals, plus failures of their associated equipment (pumps, piping, filters and heat exchangers). When the costs of environmental controls are considered, the dimensionally interchangeable Universal Mag Drive Series is the most cost-effective alternative.

Typical Applications:

- **Volatile Organic Chemicals**
- **Hazardous Chemicals**
- **LPG and Ammonia**
- **Reactive Chemicals**

24/7 Operations



Unplanned downtime to fix a leaky seal is unacceptable in facilities with continuous processes, like refineries, chemical plants and paper mills. Even when pumping “safe” liquids, seals are subject to mechanical problems like loss of compression, misalignment of pump and driver, improper seal installation, shaft deflection causing off-center faces, suction lift (vacuum) causing face separation, and many others. If you can’t afford pump downtime, the Universal Mag Drive Series offers exceptional up-time reliability through its robust, sealless design.

Typical Applications:

- **Refineries**
- **Chemical and Polymer Plants**
- **Paper Mills**
- **Pipelines**

Model Number Key

Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9
L	S	8	1	2	4	A-	325	R

Size:
K
KK
L
LQ
LL
LS

Shaft Sealing:
8 = Sealless

Jacketing:
1 = Non-Jacketed Bracket

2 = Bearing Shaft Support

Material of Construction:
3 = Steel Externals
4 = Cast Iron
7 = Stainless Steel

Series Edition:
A = Original Design

Torque Specifications:
K-KK = 90 Ft-lb
K-KK = 180 Ft-lb
L-LS = 325 Ft-lb

Drive Configurations:
__ = Standard Pump
D = Direct Drive
R = Reducer Drive
P = Purchased Reducer

Viking® Benefits

ADVANCED DURABILITY

EASY INSTALLATION

■ Proven Design

Pump has only two moving parts proven in thousands of tough applications around the world. **Simple design minimizes service requirements while providing unmatched durability and reliability.**

■ 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 extends pump life and eliminates maintenance.**

■ Dimensionally Interchangeable

Proven, dimensionally interchangeable design for Viking's Universal Seal and Heavy Duty pumps as well as competitive pumps that duplicate Viking's foot print. **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, raised and flat face flanged (125#, 150#, 250# & 300#). **Provides easy solution to match customer requirements for quick, easy installation.**

■ Rotatable Casing

Universal Seal 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

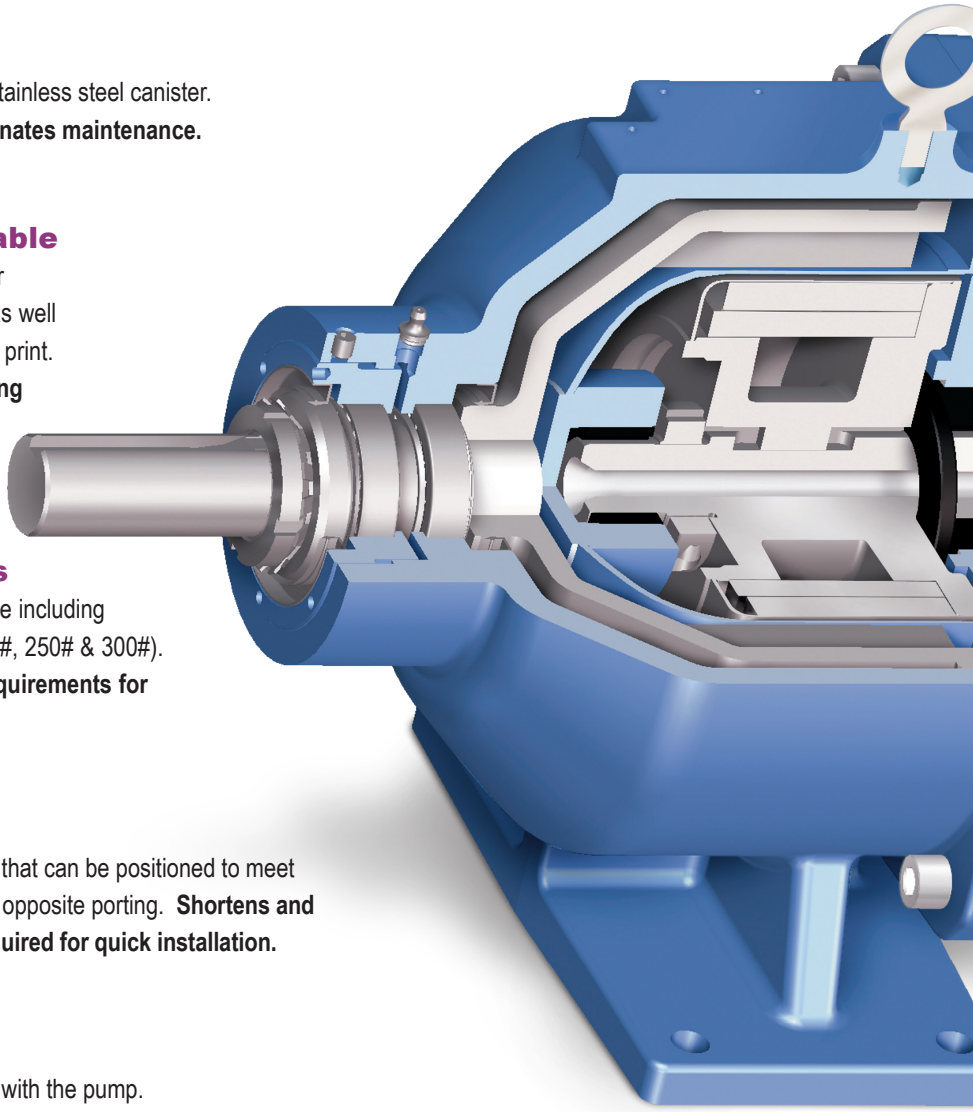
Jack bolts for coupling disassembly are standard with the pump. **Simplifies maintenance and reduces planned downtime.**

■ 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.**

■ 3-Year Warranty

Best in class warranty that covers workmanship and materials. **Warranty is 2 years longer than the competition for greater piece of mind.**

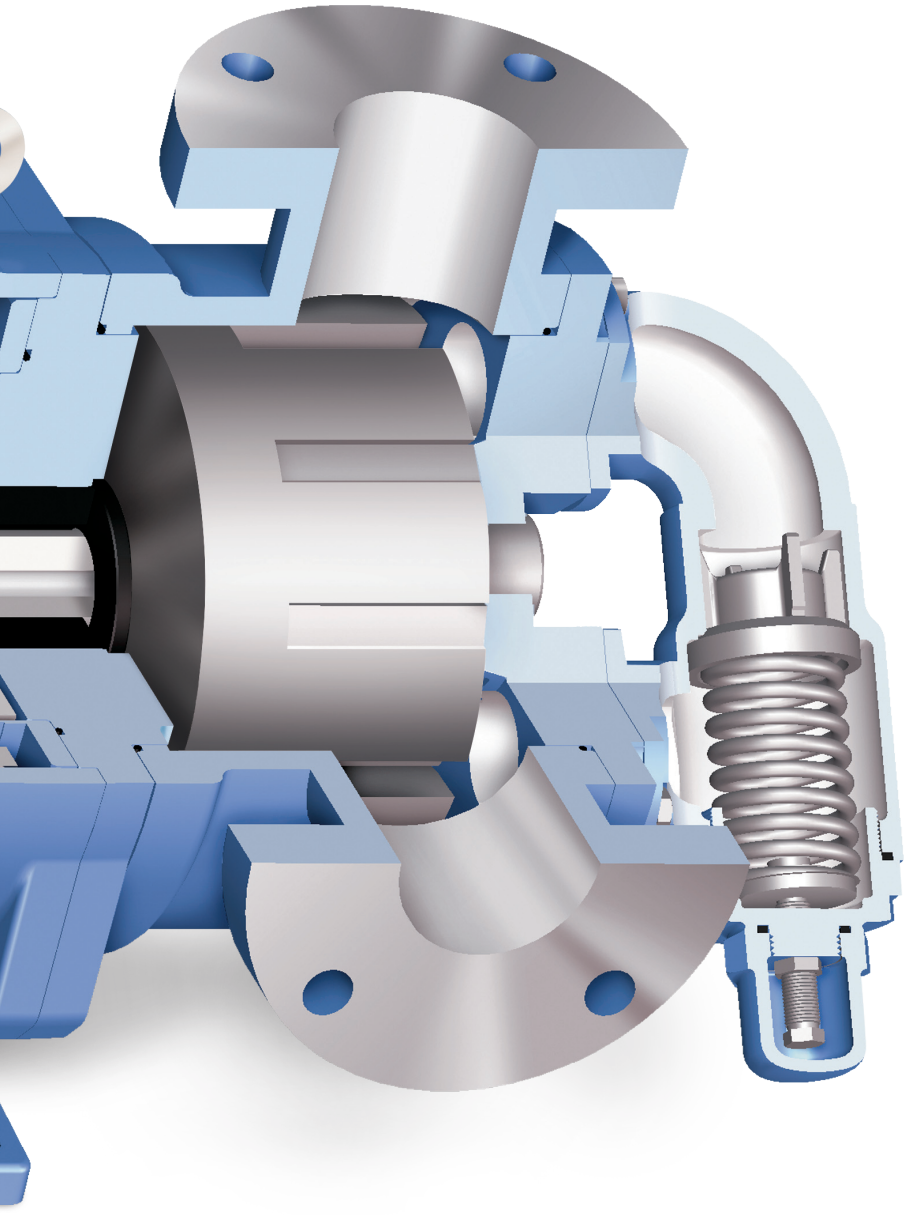


■ Lifting Lug Included

Allows for easier pump handling when installing, removing or disassembling pump. **Simplifies installation.**

■ Externally Adjustable Relief Valve

Relief valve can be adjusted while in service when process conditions change. **Provides maximum process up-time.**



■ Relief Valve, Standard

Pumps come with an adjustable internal pressure relief valve on standard design. Jacketed pressure relief valves are available in steel and stainless. **Eliminates cost of return-to-tank system and protects pump from over-pressure.**

■ 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 life of pump for lower total cost of ownership.**

■ Short-term Run-Dry Capability

Short-term run-dry capability is possible due to its rotor thrust control. **Protects the pump during priming and accidental empty-tank situations.**

■ Bi-directional Pump Design

Bi-directional pumping design eliminates cost of second pump, piping, and valving 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. **Single point adjustment maintains and maximizes pump efficiency, extending life.**

■ Dual Thrust Control Bearings

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.**

■ Higher Pressure Capabilities

Materials of construction selection permits higher pressure capabilities. **Permits single pump standardization for multiple liquids and applications.**

APPLICATION FLEXIBILITY

LOWER COST OF OWNERSHIP

Materials of Construction

Universal Mag Drive Series Construction

Component		Cast Iron Series 8124A	Steel Externals Series 8123A	Stainless Steel Series 8127A
Casing		Cast Iron ASTM A48, Class 35B	Steel ASTM A216, Grade WCB	Stainless Steel ASTM A 743, Grade CF8M
Head		Cast Iron ASTM A48, Class 35B	Steel ASTM A216, Grade WCB	Stainless Steel ASTM A 743, Grade CF8M Case Hardened
Bracket		Cast Iron ASTM A48, Class 35B	Cast Iron ASTM A48, Class 35B	Cast Iron ASTM A48, Class 35B
Idler		Cast Iron ASTM A48 Class 35B	Cast Iron ASTM A48 Class 35B	Stainless Steel ASTM A 743, Grade CF8M Case Hardened
Rotor	Standard	① Cast Iron ASTM A48, Class 35B	① Cast Iron ASTM A48, Class 35B	Stainless Steel ASTM A 743, Grade CF8M Case Hardened
	Steel Fitted	Steel ASTM A148, Grade 80-50	Steel ASTM A148, Grade 80-50	NA
Rotor Shaft	Standard	Steel ASTM A108, Grade 1045	Steel ASTM A108, Grade 1045	Coated Stainless Steel
	Steel Fitted	Hardened Steel ASTM A108, Grade 1045	Hardened Steel ASTM A108, Grade 1045	NA
Idler Pin		Hardened Steel ASTM A108, Grade 1045	Hardened Steel ASTM A108, Grade 1045	Coated Stainless Steel
Idler Bushing	Standard	Carbon Graphite	Carbon Graphite	Carbon Graphite
	Optional Material	Hardened Cast Iron	Hardened Cast Iron	Silicon Carbide
Internal Pressure Relief Valve		Cast Iron ASTM A48, Class 35B	Steel ASTM A216, Grade WCB	Stainless Steel ASTM A 743, Grade CF8M
Canister		316L Stainless Steel	316L Stainless Steel	316L Stainless Steel
Canister Bushing	Standard	Carbon Graphite	Carbon Graphite	Carbon Graphite
	Optional Material	Hardened Cast Iron	Hardened Cast Iron	Silicon Carbide
Thrust Washers	Standard	Hardened Cast Iron	Hardened Cast Iron	Silicon Carbide
	Optional Material	Silicon Carbide	Silicon Carbide	NA
Coupling Magnets	Standard	Neodymium Iron Boron	Neodymium Iron Boron	Neodymium Iron Boron
	Optional Material	Samarium Cobalt	Samarium Cobalt	Samarium Cobalt
O-rings	Standard	Buna N	Buna N	PTFE (Derivative) Encapsulated
	Optional Materials	Viton®, PTFE (Derivative) Encapsulated, Kalrez®	Viton®, PTFE (Derivative) Encapsulated, Kalrez®	Viton®, Buna N, Kalrez®
Adaptor Plate		Cast Iron ASTM A48, Class 35B	Steel ASTM A216, Grade WCB	Stainless Steel ASTM A743, Grade CF8M
Adaptor Bushing	Standard	Carbon Graphite	Carbon Graphite	Carbon Graphite
	Optional	Hardened Cast Iron	Hardened Cast Iron	Silicon Carbide

① KK and LS sizes have ductile iron rotor, ASTM A536 Grade 60-40-18.

Kalrez® is a registered trademark of DuPont Performance Elastomers.
Viton® is a registered trademark of DuPont Performance Elastomers.

Footnotes for Specifications Table on Page 7:

① For maximum recommended discharge pressures see performance curves. If suction pressure exceeds 50 PSIG, consult factory.
② Extra clearances are required above 225° F. Higher temperatures can be handled with special construction, consult factory.
③ Ports are tapped for standard (NPT) pipe.
④ Ports are suitable for use with 125# ANSI cast iron companion flanges or flanged fittings.
⑤ Ports are suitable for 150# ANSI steel or stainless steel companion flanges or flanged fittings.
⑥ See p.635.9 for other port size options.

Footnotes for Dimensions Table on Page 7:

① Series 8124A ports are tapped for standard (NPT) pipe.
② Series 8124A, sizes LQ, LL and LS ports are suitable for use with 125# ANSI cast iron flanges or flanged fittings.
③ Series 8123A and 8127A ports are suitable for 150# ANSI steel or stainless steel companion flanges or flanged fittings.
④ Sizes L, LL and LQ - coupling bore may require modifications to fit shaft diameter.

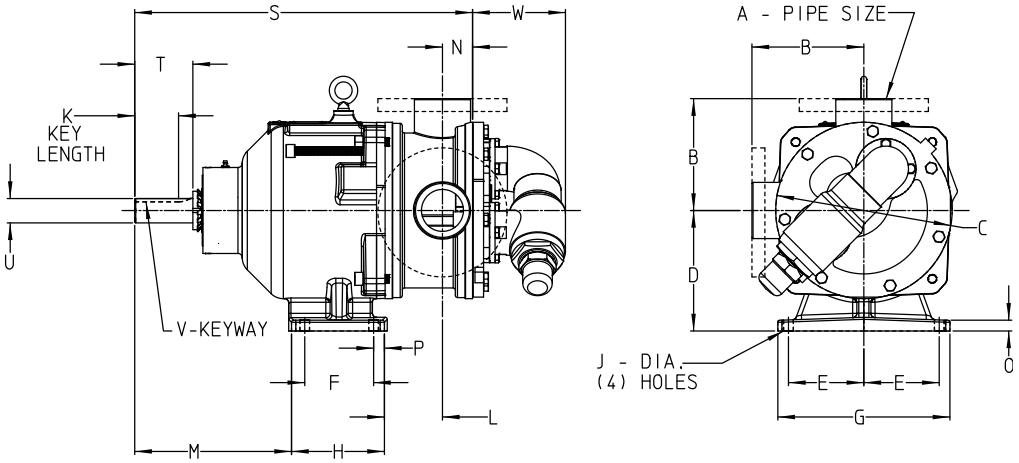
Specifications & Dimensions

UNIVERSAL MAG DRIVE

Universal Mag Drive Series Specifications

Pump Model	⑥ Standard Port Size		Capacity at Maximum Rated Speed			Maximum Hydrostatic Pressure		① Maximum Discharge Pressure		② Maximum Recommended Temperature		Approximate Shipping Weight	
	mm	in.	M³/Hr.	GPM	RPM	BAR	PSI	BAR	PSI	Deg. C	Deg. F	Kg.	Lb.
K8124A	③50	③2	18	80	780	28	400	14	200	107	225	88	195
K8123A	⑤50	⑤2										93	205
K8127A								10	150			93	205
KK8124A	③50	③2	23	100	780	28	400	14	200	107	225	88	195
KK8123A	⑤50	⑤2										93	205
KK8127A								10	150			93	205
L8124A	③50	③2	30	135	640	28	400	14	200	107	225	127	280
LQ8124A	④65	④2 ½	30	135	640	28	400	14	200	107	225	132	290
LQ8123A	⑤65	⑤2 ½										134	295
LQ8127A								10	150			134	295
LL8124A	④75	④3	39	170	640	28	400	14	200	107	225	93	205
LL8123A	⑤75	⑤3										143	315
LL8127A								10	150			143	315
LS8124A	④75	④3	45	200	640	28	400	14	200	107	225	154	340
LS8123A	⑤75	⑤3										159	350
LS8127A								10	150			159	350

Dimensions for K through LS Sizes - All Materials of Construction



Model		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	S	T	④ U	V	W
K8124A KK8124A	mm	50	130	203	140	102	70	235	100	14	31	77	239	44	16	15	460	57	28	.25 x .12	133
	in.	① 2	5.12	8.00	5.50	4.00	2.75	9.25	3.95	.56	1.42	3.03	9.39	1.75	.62	.60	18.12	2.25	1.125		5.22
K8123A K8127A KK8123A KK8127A	mm	50	133	203	140	102	70	235	100	14	31	77	239	44	16	15	460	57	28	.25 x .12	133
	in.	③ 2	5.25	8.00	5.50	4.00	2.75	9.25	3.95	.56	1.42	3.03	9.39	1.75	.62	.60	18.12	2.25	1.125		5.22
L8124A	mm	50	165	260	178	112	102	254	137	14	65	86	231	44	16	16	499	86	36	.38 x .19	137
	in.	① 2	6.50	10.25	7.00	4.38	4.00	10.00	5.40	.56	2.55	3.37	9.11	1.75	.62	.63	19.63	3.38	1.438		5.40
LQ8124A LQ8123A LQ8127A	mm	65	183	260	178	112	102	254	137	14	65	86	231	44	16	16	499	86	36	.38 x .19	137
	in.	②③ 2.5	7.19	10.25	7.00	4.38	4.00	10.00	5.40	.56	2.55	3.37	9.11	1.75	.62	.63	19.63	3.38	1.438		5.40
LL8124A LL8123A LL8127A	mm	75	183	260	178	112	102	254	137	14	65	86	231	57	16	16	511	86	36	.38 x .19	137
	in.	②③ 3	7.19	10.25	7.00	4.38	4.00	10.00	5.40	.56	2.55	3.37	9.11	2.25	.62	.63	20.13	3.38	1.438		5.40
LS8124A LS8123A LS8127A	mm	75	183	260	178	112	102	254	137	14	65	120	231	62	16	16	551	86	36	.38 x .19	137
	in.	②③ 3	7.19	10.25	7.00	4.38	4.00	10.00	5.40	.56	2.55	4.74	9.11	2.44	.62	.63	21.69	3.38	1.438		5.40

VIKING PUMP
A Unit of IDEX Corporation

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

Innovation and Experience

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

Broad Performance Range

Capacity:
0.5 to 360 M³/Hr (0.1 to 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 Hastelloy®. 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.

IDEX CORPORATION

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

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