

# *YOUR PARTNER FOR* *INNOVATIVE PUMPING SOLUTIONS*

## *FOCUS MARKET:* **ASPHALTIC ROOFING**



**VIKING PUMP®**

# VIKING PUMP®

Viking Pump and our Authorized distributors have been trusted partners for the manufacturers of asphalt roofing and sealants for more than a century. Viking invented the internal gear pump, and has worked with the world's leading roofing manufacturers to develop reliable solutions for handling everything from flux, seal-down and adhesive asphalts to high-temperature blown and polymer modified asphalts, to highly abrasive coating asphalts.

Roofing plants often rely on 40 or more Viking pumps for 24/7 operation, and Viking's goal is to ensure that no plant has to stop the line for unplanned maintenance on a pump. With a spectrum of products to choose from, Viking has the right solutions to solve any pumping problem at your facility.

As the world's leading positive displacement process pump manufacturer, solving difficult liquid transfer problems is what we do. It doesn't get more difficult than coating asphalt, so rely on Viking's experience and expertise.



## THE VIKING PUMP ADVANTAGE

### • Design Options:

- 1224A-ASP1 models for rugged reliability and leak prevention for clean, non-abrasive asphalts
- 1224A-ASP2 models with hardened parts and leak prevention for abrasive asphalts
- 34 Series™ for simplest maintenance
- 224A Series™ for rugged reliability
- 124E Series™ for electric heating

### • Sealing Options:

- Packed gland for maximum simplicity
- O-Pro® seal options to prevent leakage, even on coating asphalt

### • Hard Part Options:

- Range of options from carbon graphite, bronze and hardened iron to tungsten carbide offer range of choices from lowest cost to longest life

### • High Temp Options:

- Special construction options for asphalts over 450°F (230°C) for longest life

### • Clearance Options:

- Extra clearances for high viscosities
- Adjustable end clearances to compensate for wear over time

### • Heating Options:

- Integral jacketing for steam or hot oil
- Jacketed pressure relief valve option protects pump when line is blocked
- Electrically heated models eliminate hot oil leakage, provide precise control

### • Reversible direction of flow to strip line after pumping

### • Robust design is very forgiving of operator error

### • Easy, in-house maintenance

### • Stocking distributors worldwide provide local support



## VIKING IS THE GLOBAL LEADER IN PUMPING ASPHALTIC PRODUCTS FOR TWO REASONS: *RELIABILITY & LOCAL SUPPORT*



**RELIABILITY** is built into the product, based on more than 100 years of experience handling many different types of asphalt in such diverse applications as:

- Refineries (resids, asphalt/bitumen, pitch)
- Terminals (straight-run, cutbacks, emulsions, PMA)
- Roofing Manufacturers (flux, blown asphalt, PMA, coating asphalt, seal-down, laminate)
- Transportation (loading/unloading ships, barges, rail cars, tanker trucks)
- Hot Mix Plants (cutbacks, emulsions)
- Sealant packaging, tar kettles, distributor trucks, pipe lining, etc.

Viking also has pumps for roofing plant utilities, including fuel oil for boilers and backup generators, heat transfer oil, knockdown tank liquids and more.



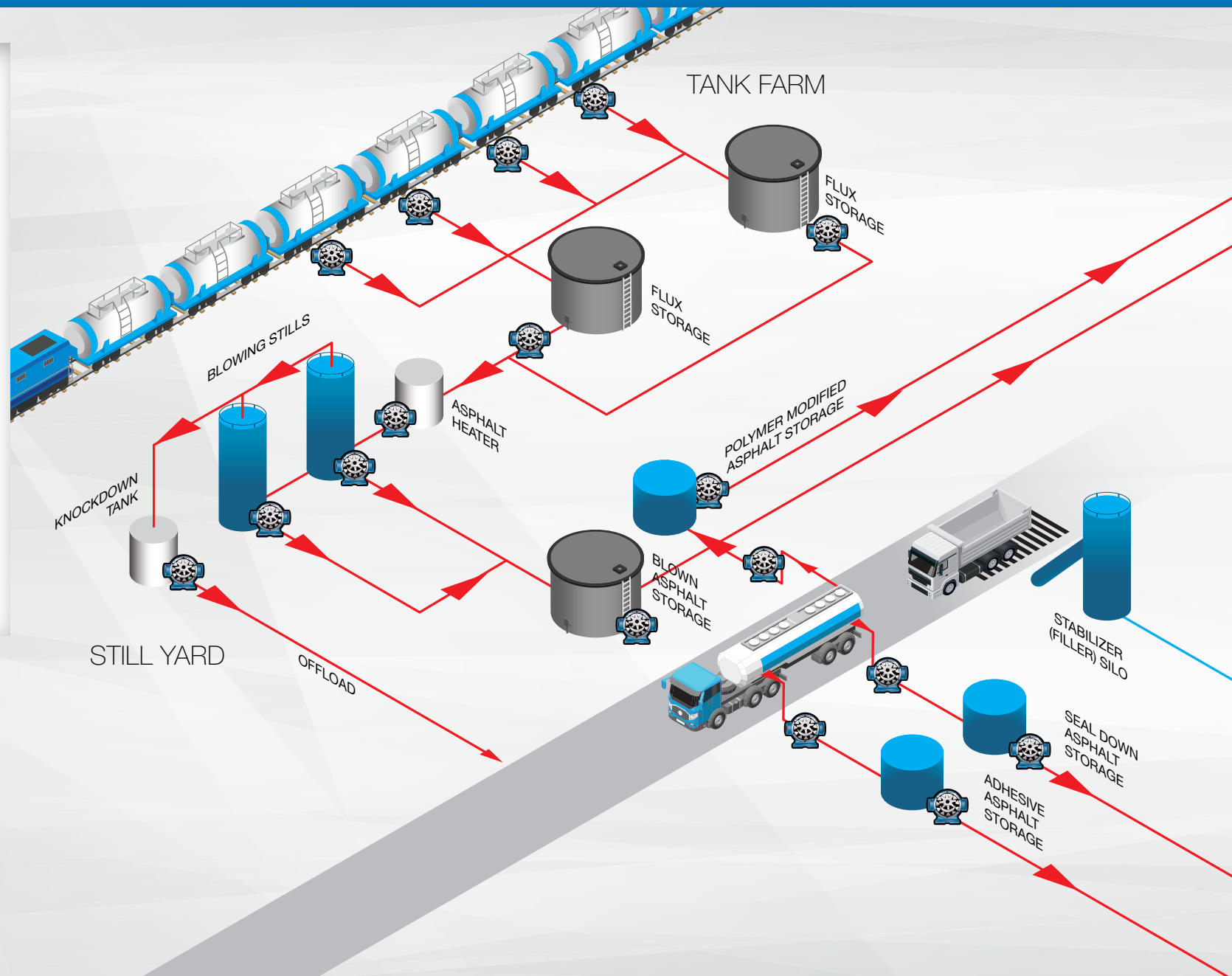
Your Viking Authorized Distributor provides **LOCAL SUPPORT** to keep you running, including:

- Stocking spare parts and pumps
- Drives, strainers and other accessories
- Pump selection expertise, commissioning and troubleshooting
- Maintenance
- Operator training

# ASPHALT ROOFING PROCESS: SIMPLIFIED FLOW

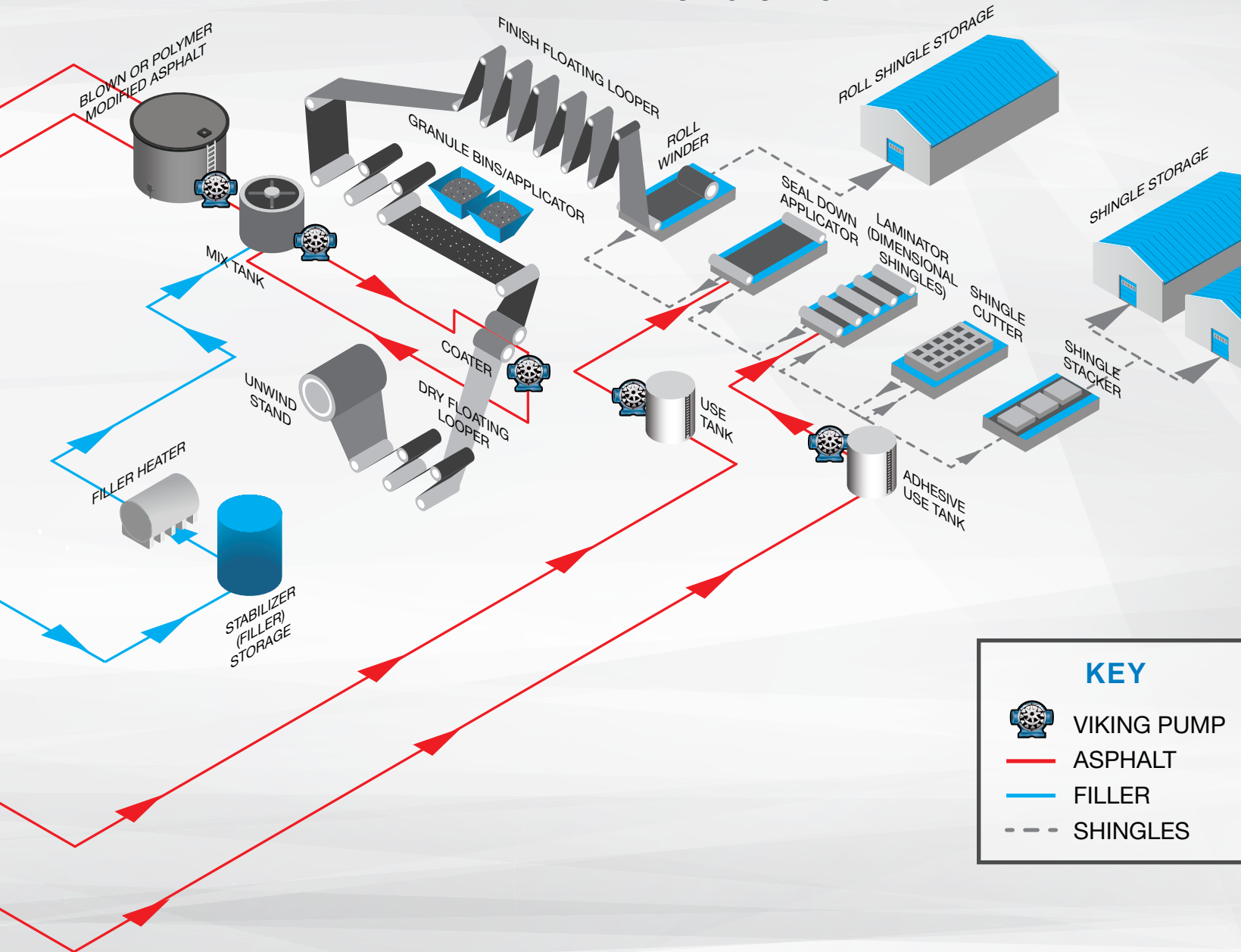
## VIKING PUMPS...

- Unload flux from railcars to tank farm
- Transfer flux from tank farm to pre-heater
- Transfer flux from pre-heater to blowing stills
- Transfer blown (oxidized) asphalt to storage
- Transfer knockdown tank liquids to disposal
- Unload PMA, Seal-Down and Laminate (adhesive) asphalt from trucks to storage





## MANUFACTURING



## VIKING PUMPS...

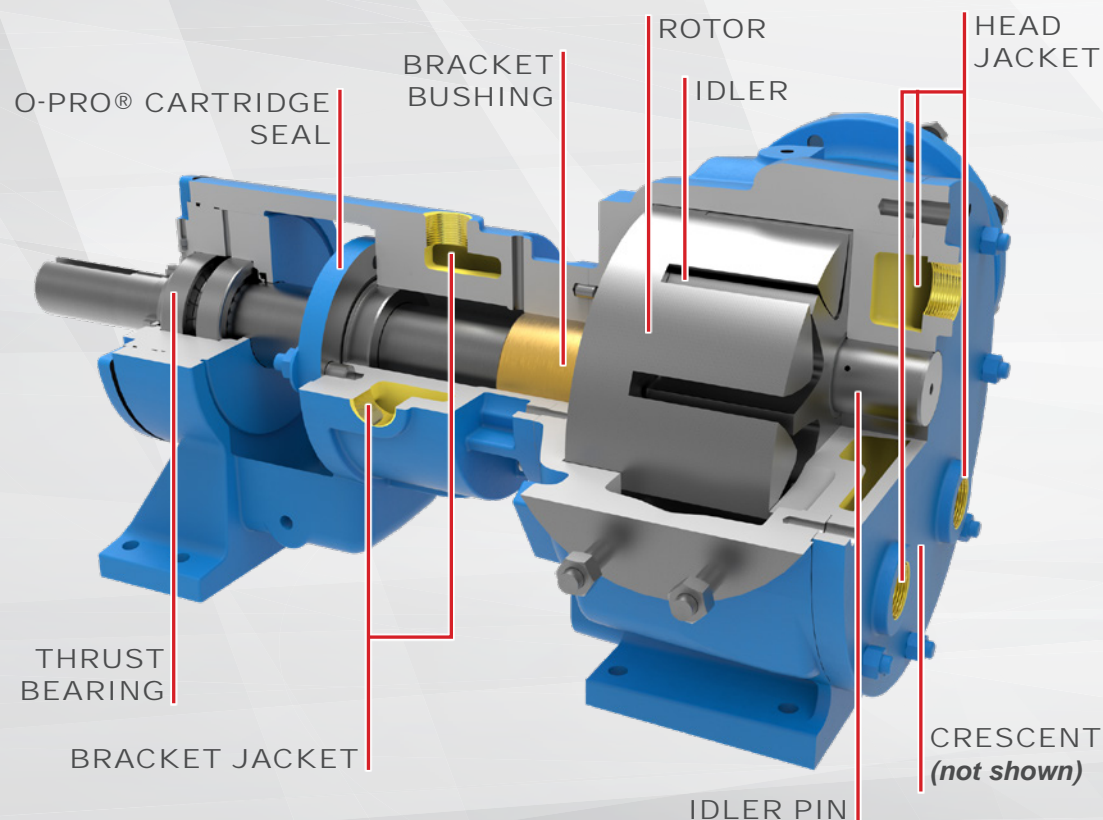
- Transfer blown asphalt or PMA to plant day tank
- Transfer from day tank to mix tank for blending with filler
- Transfer coating asphalt to coater
- Return coating asphalt to mix tank
- Meter seal-down onto shingles
- Meter laminate onto shingles

# THE VIKING PUMP SOLUTION

## INTERNAL GEAR PUMPING PRINCIPLE - HOW IT WORKS

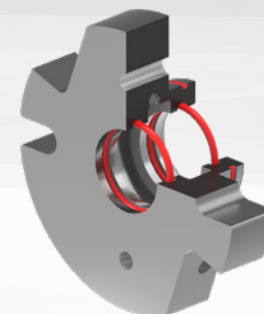
The pump rotor turns at slow speeds within the casing. The idler gear rotates on an idler pin, mounted on the pump head. As the rotor turns, it turns the idler gear. The crescent, also part of the pump head, separates the liquid into two streams. As the gears re-mesh, the liquid is forced out the discharge port. The rotor is positioned radially by a fluid-lubricated bracket bushing just behind the rotor, and a pair of anti-friction bearings in the bearing housing. By locating the seal between bearings, it greatly extends seal life. The anti-friction (thrust) bearings also position the rotor axially, and are located in a rotatable housing to enable adjustment of rotor end clearances without removing the pump.

Pumps are long coupled to a gear reducer or gearmotor, or may be belt- or chain-driven for speed reduction. Flow rate is directly proportional to speed, so variable speed drives may be used for precise process control.



## LEAK PREVENTION WITH O-PRO® CARTRIDGE SEAL

Viking's new O-Pro® Cartridge seal prevents leakage along the shaft for increased cleanliness, decreased clean up costs, and reduced fall hazards. The O-Pro® Cartridge seal helps avoid the continuous leakage or catastrophic failures that accompany traditional asphalt sealing methods by using O-rings to seal externally on the bracket and internally on the shaft. These O-rings in combination with a lubricating grease provide a robust seal, keeping process fluid from leaking out of the pump. The O-Pro® Cartridge seal can be easily repaired or retrofitted without pump disassembly and is the standard seal offering on our 1224A-ASP Series™ and 1324A-ASP Series™ asphalt pumps.



## PERFORMANCE:

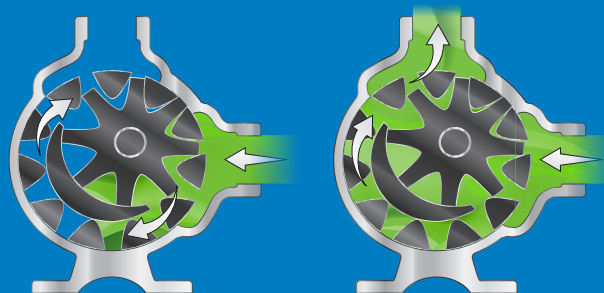
UNIVERSAL SERIES MAXIMUM RECOMMENDED SPEEDS

VIKING PUMP SIZE	CLEAN ASPHALT			FILLED ASPHALT		
	Max RPM	Nominal Flow Rate		Max RPM	Nominal Flow Rate	
		GPM	m³/h		GPM	m³/h
H	1750	15	3.4	640	5	1.1
HL	1750	30	6.8	640	10	2.2
K	780	75	17	280	25	5.6
KK	780	100	23	280	35	8
L/LQ	640	135	30	230	50	11
LL	520	140	32	230	65	15
LS	640	200	45	230	72	16
Q	520	300	68	190	110	25
QS	520	500	114	190	180	41
M	420	420	95	155	155	35
N	350	600	136	130	210	48
R	280	1100	250	100	350	80
RS	280	1600	364	—	—	—

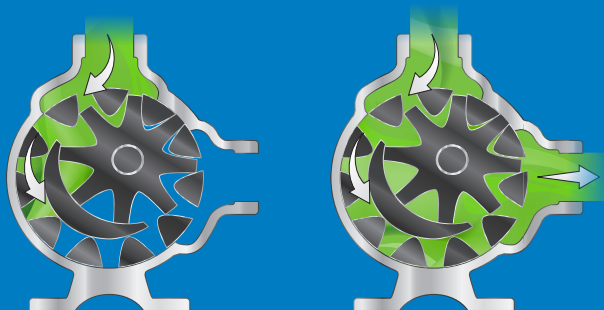


## INTERNAL GEAR PUMP PRINCIPLE:

Clockwise Rotation  
(viewed from shaft end)



Counter-Clockwise Rotation  
(viewed from shaft end)



[VIKINGPUMP.COM](http://VIKINGPUMP.COM)

# VERTICALLY INTEGRATED PRODUCTION PROCESS:

Viking Pump operates a foundry, a 200,000+ sq. ft. machining, assembly and testing center, and an extensive product engineering and testing lab in its world headquarters in Cedar Falls, Iowa, USA. This level of vertical integration ensures maximum quality, ability to satisfy special needs, and to meet project schedules.



## VIKING PUMP®

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**CONTACT YOUR STOCKING DISTRIBUTOR TODAY**

GLOBAL LEADER IN POSITIVE DISPLACEMENT PUMPING SOLUTIONS: Cedar Falls, Iowa, USA | Windsor, Ontario, Canada | Shannon, Ireland | Eastbourne, United Kingdom

**IDEX**

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