INTERNAL GEAR PUMPS FOR REFRIGERATION AMMONIA

- HIGHEST LIQUID OVERFEED EFFICIENCY
- SAFE DOUBLE SEAL
- PROVEN RELIABILITY
- NEW EASIER ADJUSTMENT

Capacity to 60 GPM (227 LPM)
Pressure to 50 PSI (3.5 BAR)
Temperature -40°F to +225°F (-40°C to +107°C)

VIKING PUMP
A Unit of IDEX Corporation
Viking Advantages vs. Centrifugal Pumps

Centrifugal pumps used in this application have a minimum Best Efficiency Point of around 80 GPM, and operating anywhere below about 68 GPM can cause internal recirculation and other problems that require bypassing of most of the flow back to the accumulator, which wastes energy and puts heat into the system. Viking’s Positive Displacement technology offers flow rates of 10, 20, 30, 45 and 60 GPM, allowing you to match the pump to your exact flow requirements. Viking’s double mechanical seal with pressurized barrier fluid reservoir provides maximum safety without adding heat to the system like hermetic pumps, which flow ammonia across the motor for cooling.

Liquid Overfeed Systems

Viking Refrigeration Ammonia pumps are designed for liquid overfeed ammonia refrigeration systems. They pump from the accumulator to “overfeed” the evaporator, ensuring that liquid ammonia is present throughout the evaporator coils to provide greater heat transfer efficiency than direct expansion systems where ammonia vaporizes completely.

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**FEATURES & BENEFITS**

**Rotatable Bearing Housing**
Simplifies end clearance adjustment

**Rigid, One-Piece Cast Bracket**
With seal between bearings helps prevent misalignment to ensure long seal life

**Double Mechanical Seal**
With oil barrier for maximum safety

**Lubricated Idler Bushing**
With pressure lubrication system (K-LL sizes) provides constant film of liquid between idler pin and bushing for longest life

**Pressurized Oil Reservoir**
Ensures liquid barrier between inboard and outboard seals

**Sight Glass**
Enables easy verification of oil level

**Return-to-Tank Pressure Relief Valve**
Prevents overpressure (HL valve shown. Others extend with poppet parallel to shaft)

**Static O-Ring Seals**
Between casing, head and bracket provide superior joint sealing
CONSTRUCTION & SPECIFICATIONS

Materials of Construction

<table>
<thead>
<tr>
<th>Component:</th>
<th>Casing, Head &amp; Bracket</th>
<th>Rotor</th>
<th>Shaft</th>
<th>Idler (1)</th>
<th>Idler Pin</th>
<th>Bracket Bushing</th>
<th>Idler Bushing</th>
<th>Double Mechanical Seal</th>
<th>Static O-Ring Seals</th>
<th>Return-to-Tank Relief Valve</th>
</tr>
</thead>
</table>

Specifications

<table>
<thead>
<tr>
<th>Footed Model</th>
<th>Standard Port Sizes (2)</th>
<th>Nominal Capacity</th>
<th>Maximum Speed</th>
<th>Maximum Differential Pressure</th>
<th>Minimum Temperature for Catalog Pump (3)</th>
<th>Approximate Shipping Weight with PRV &amp; Reservoir</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>GPM</td>
<td>LPM</td>
<td>RPM</td>
<td>PSIG</td>
<td>Bar</td>
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<tr>
<td>HL4924A</td>
<td>1.5</td>
<td>10</td>
<td>37.8</td>
<td>780</td>
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<tr>
<td>K4924A</td>
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<td>20</td>
<td>75.7</td>
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<td>3.5</td>
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<tr>
<td>KK4924A</td>
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<td>30</td>
<td>113.5</td>
<td>280</td>
<td>50</td>
<td>3.5</td>
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<tr>
<td>LQ4924A</td>
<td>2.5 (3)</td>
<td>45</td>
<td>170</td>
<td>280</td>
<td>50</td>
<td>3.5</td>
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<tr>
<td>LL4924A</td>
<td>3 (3)</td>
<td>60</td>
<td>227</td>
<td>280</td>
<td>50</td>
<td>3.5</td>
</tr>
</tbody>
</table>

(1) HL size cast iron idler is lubrite coated.
(2) Suction piping recommended one size larger than pump suction port.
(3) ANSI compatible Class 125 Flanged Ports, furnished with NPT companion flanges. All other models NPT ports.
(4) Pumps can be used to -40°F (-40°C) with optional oil reservoir immersion heater.

NOTE: The current 4924A series replaced Viking’s old 4925 Series Ammonia pumps. The key difference is the bearing housing on the bracket simplifies adjusting end clearance, which helps ensure optimal efficiency and can compensate for wear over time.

Performance @ 25 PSI (Larger sizes with higher capacities available)
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• Secondary glycol loops
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• Specialty cooling systems using sealless magnetic drives
• Lubrication pumps for refrigeration compressors & chillers
• Refrigeration oil return

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VIKING LIQUID OVERFEED PUMP WITH BACK-TO-TANK RELIEF VALVE

4’ MINIMUM RECOMMENDED LIQUID LEVEL

CONDENSER LEVEL CONTROL

EXPANSION VALVE

PRESSURE RELIEF

PUMP ISOLATION VALVES

RECEIVER

EVAPORATOR

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