

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

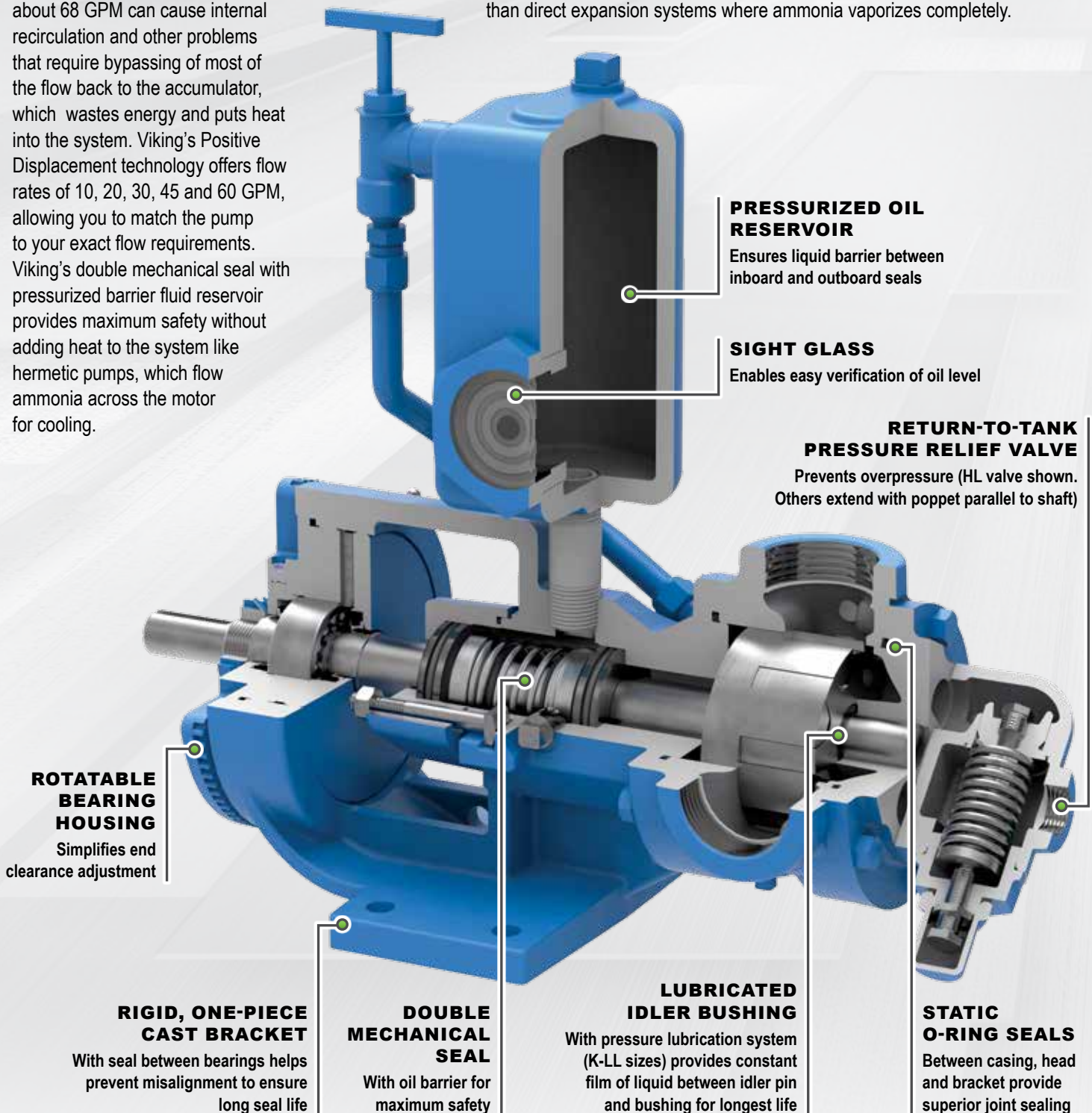
FEATURES & BENEFITS

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.



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)

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

STATIC O-RING SEALS

Between casing, head and bracket provide superior joint sealing

CONSTRUCTION & SPECIFICATIONS

Materials of Construction

Component:	Casing, Head & Bracket	Rotor	Shaft	Idler ①	Idler Pin	Bracket Bushing	Idler Bushing	Double Mechanical Seal	Static O-Ring Seals	Return-to-Tank Relief Valve
Standard Material:	Cast Iron, ASTM A48, Class 35B	Cast Iron, ASTM A48, Class 35B	Steel, ASTM A108, Grade 1045	Cast Iron, ASTM A48, Class 35B	Hardened Steel, ASTM A108 Grade 10L45	Carbon Graphite	Carbon Graphite	Carbon vs. Ni-Resist Faces, Neoprene Elastomers	Buna	Cast Iron, ASTM A48, Class 35B

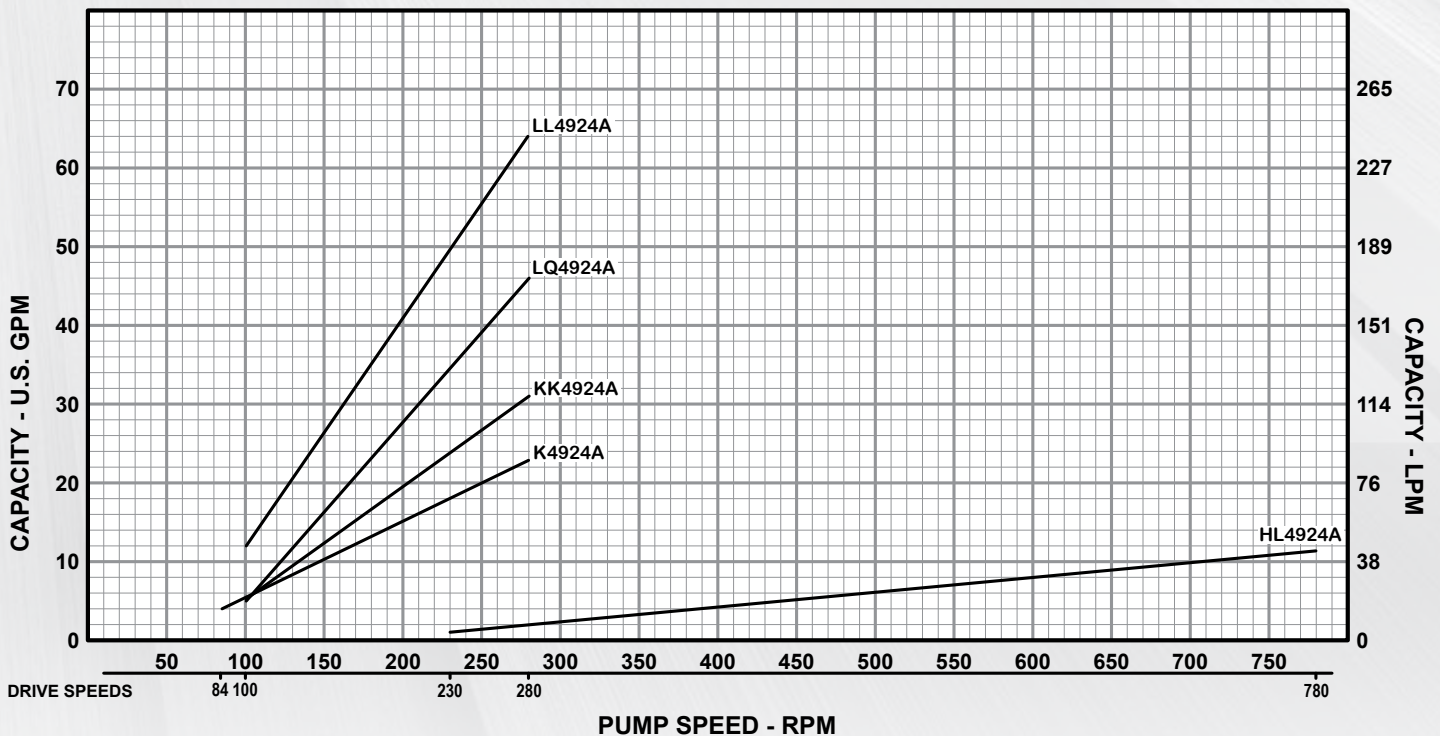
Specifications

Footed Model	Standard Port Sizes ②	Nominal Capacity		Maximum Speed	Maximum Differential Pressure		Minimum Temperature for Catalog Pump ④		Approximate Shipping Weight with PRV & Reservoir	
	Inches	GPM	LPM	RPM	PSIG	Bar	°F	°C	Lbs	Kg.
HL4924A	1.5	10	37.8	780	50	3.5	-20	-29	70	32
K4924A	2	20	75.7	280	50	3.5	-20	-29	135	62
KK4924A	2	30	113.5	280	50	3.5	-20	-29	140	64
LQ4924A	2.5 ③	45	170	280	50	3.5	-20	-29	215	98
LL4924A	3 ③	60	227	280	50	3.5	-20	-29	230	105

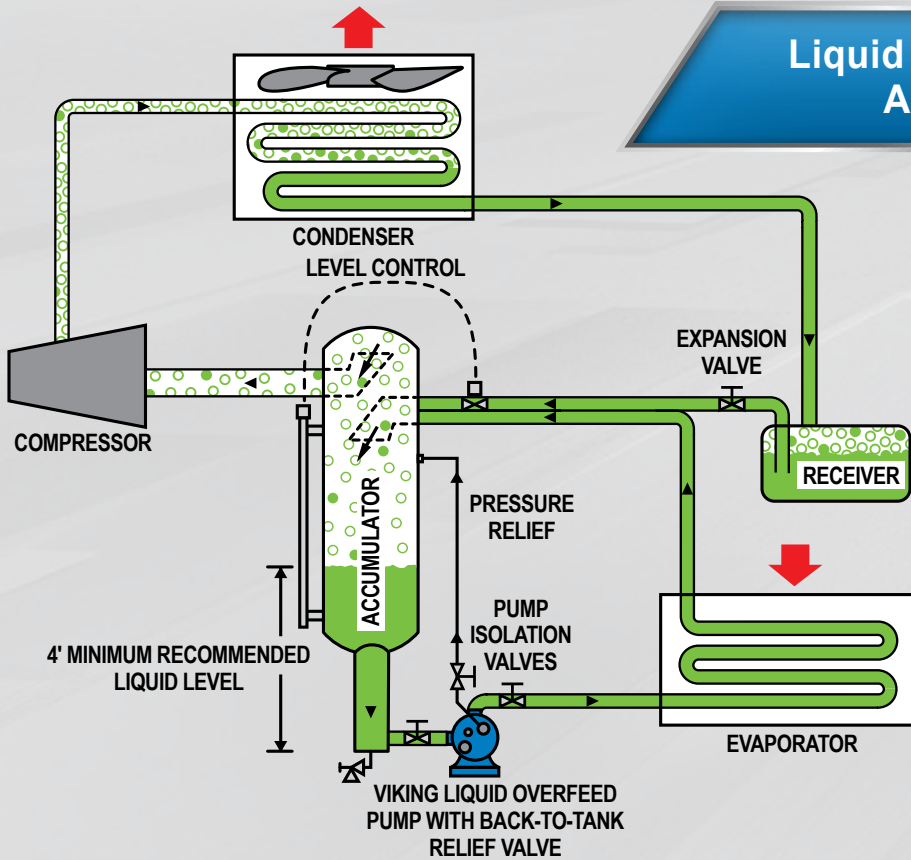
- ① HL size cast iron idler is lubrite coated.
- ② Suction piping recommended one size larger than pump suction port.
- ③ ANSI compatible Class 125 Flanged Ports, furnished with NPT companion flanges. All other models NPT ports.
- ④ Pumps can be used to -40°F (-40°C) with optional oil reservoir immersion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



Liquid Overfeed Vapor Compression Ammonia Refrigeration System



VIKING PUMP

Known throughout the refrigeration industry, with special pumps for:

- Secondary glycol loops
- Manufacturing of fluorocarbon refrigerants
- Specialty cooling systems using sealless magnetic drives
- Lubrication pumps for refrigeration compressors & chillers
- Refrigeration oil return

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