

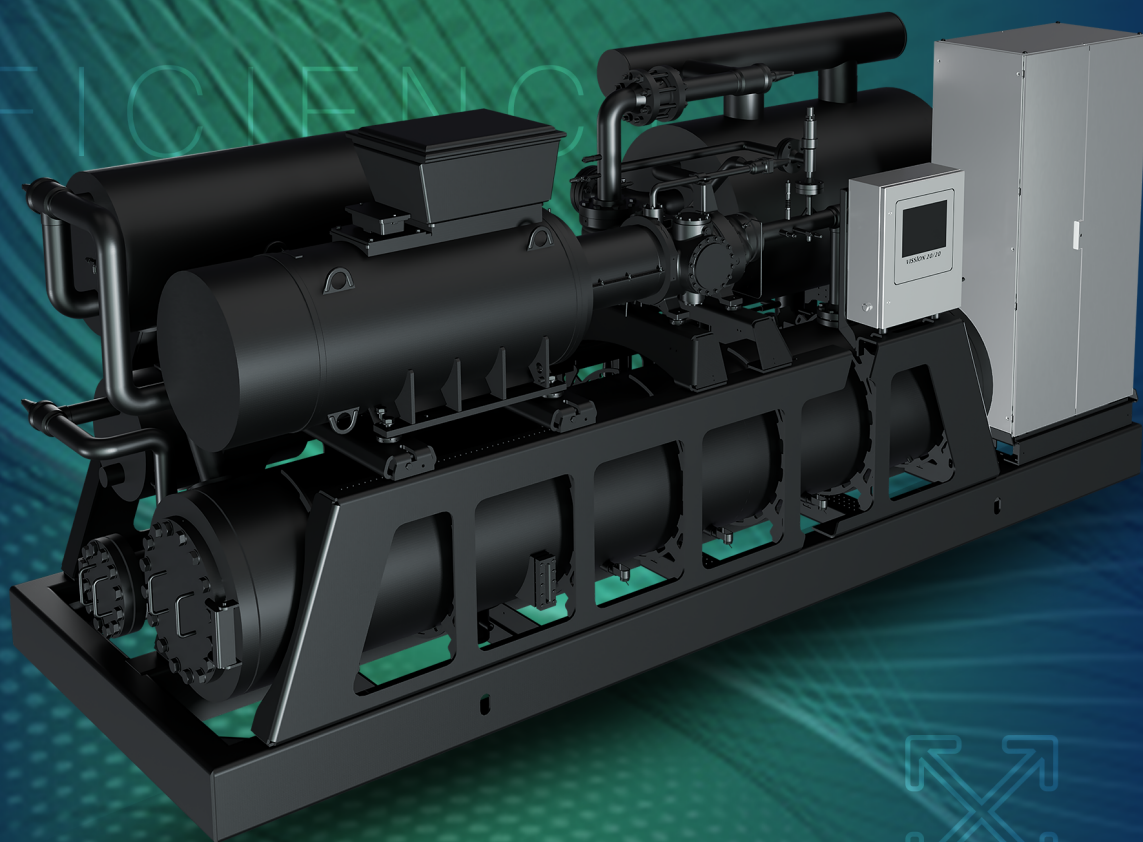
Vilter VQ145 industrial heat pump

*Low-pressure steam up to 1.8 bar and pressurized hot water up to 145°C.
Built on the proven VQ platform, leverages the superior properties
of ammonia.*

SIMPLICITY

RELIABILITY

EFFICIENCY



FLEXIBILITY



Electrify process heat—without giving up steam utility

Industrial sites are under pressure to reduce carbon emissions with exposure to volatile fuel costs.

The VQ145 helps displace fossil fuel steam and hot water generation by upgrading available heat sources (waste heat, process cooling) into useful process heat—while maintaining the controllability and reliability industrial operations require.

Accelerate your energy transition with the VQ145

Rising fossil fuel costs, stringent regulations, corporate sustainability mandates – the drive towards decarbonization is gaining steam. And with the new Vilter™ VQ145 industrial heat pump by Copeland, there's no sacrificing performance or operational efficiency.

Built on the VQ Series platform, the Vilter VQ145 provides a cost-effective and compliant alternative to traditional boilers – delivering unprecedented high temperatures (up to 145°C) with the built-in simplicity and reliability of the Vilter single screw compressor.

This is the definitive solution for industries committed to leading the charge in decarbonization – upgrading available heat sources such as waste heat, process cooling or ambient into useful, reliable, controllable process heat.

Your next big leap in sustainable heating

Vilter is the only manufacturer of completely electric-based ammonia heat pump systems utilizing single-screw compressors. Single-screw compression unlocks the ability for natural refrigerants to achieve the higher temperatures and pressures required by industrial applications.

Typical use cases

- Steam support (low-pressure): preheat, hybrid boiler displacement, steam header support
- High-temperature hot water loops: jacket heating, CIP, pasteurization support, dryer preheat
- Heat recovery upgrades: lift waste heat to high-value temperature levels

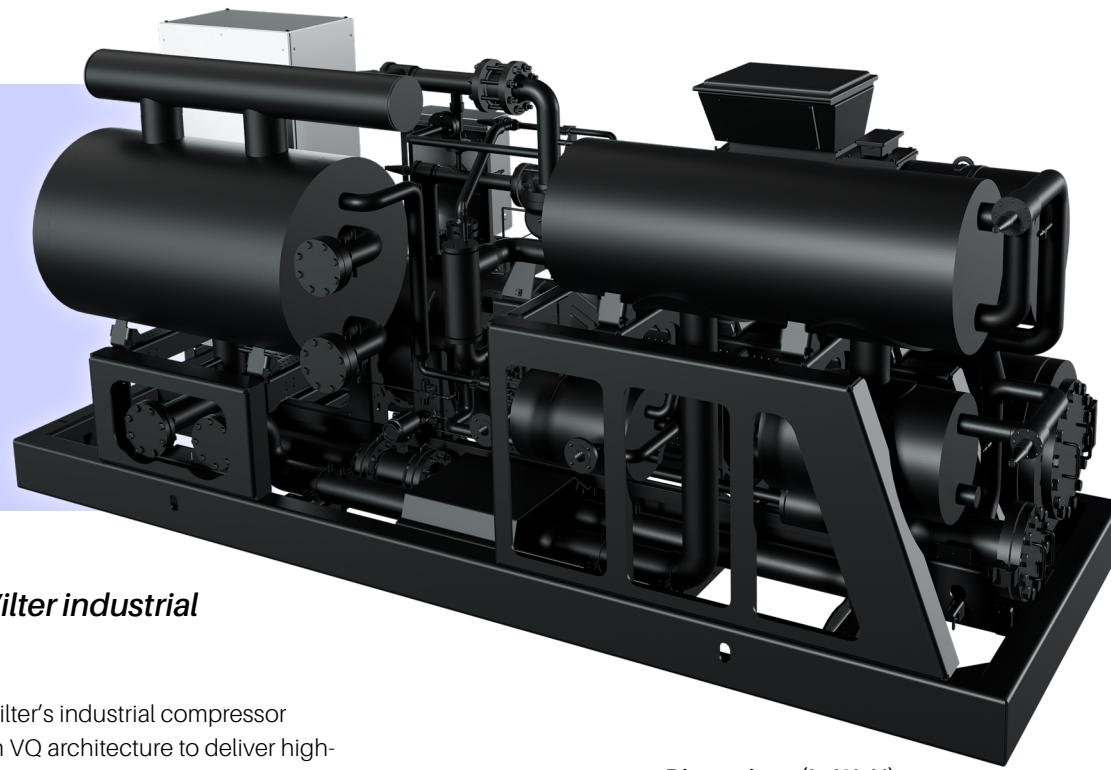
Target industries

- Food and beverage
- Pharmaceuticals
- Chemicals
- Pulp and paper
- Textiles
- District and campus heating

Built on proven Vilter industrial technology

The VQ145 leverages Vilter's industrial compressor heritage and the proven VQ architecture to deliver high-temperature process heat using ammonia (R717)—a natural refrigerant with zero GWP.

- High-pressure, low displacement compressor design developed for industrial duty
- Patented design with years of experience in demanding applications
- Multiple compressor models enabling scalable selections across a broad operating range
- No oil pump required, reducing system complexity and maintenance points



- **Dimensions (LxWxH):**
5,600 x 2,000 x 2,600 mm
- **Weight MAX:** ~21,000 kg

Designed for high-temperature industrial duty

- System lift: up to 120K
- Discharge temperature: up to 180°C
- System pressure rating: 120 bar

Packaged VQ design

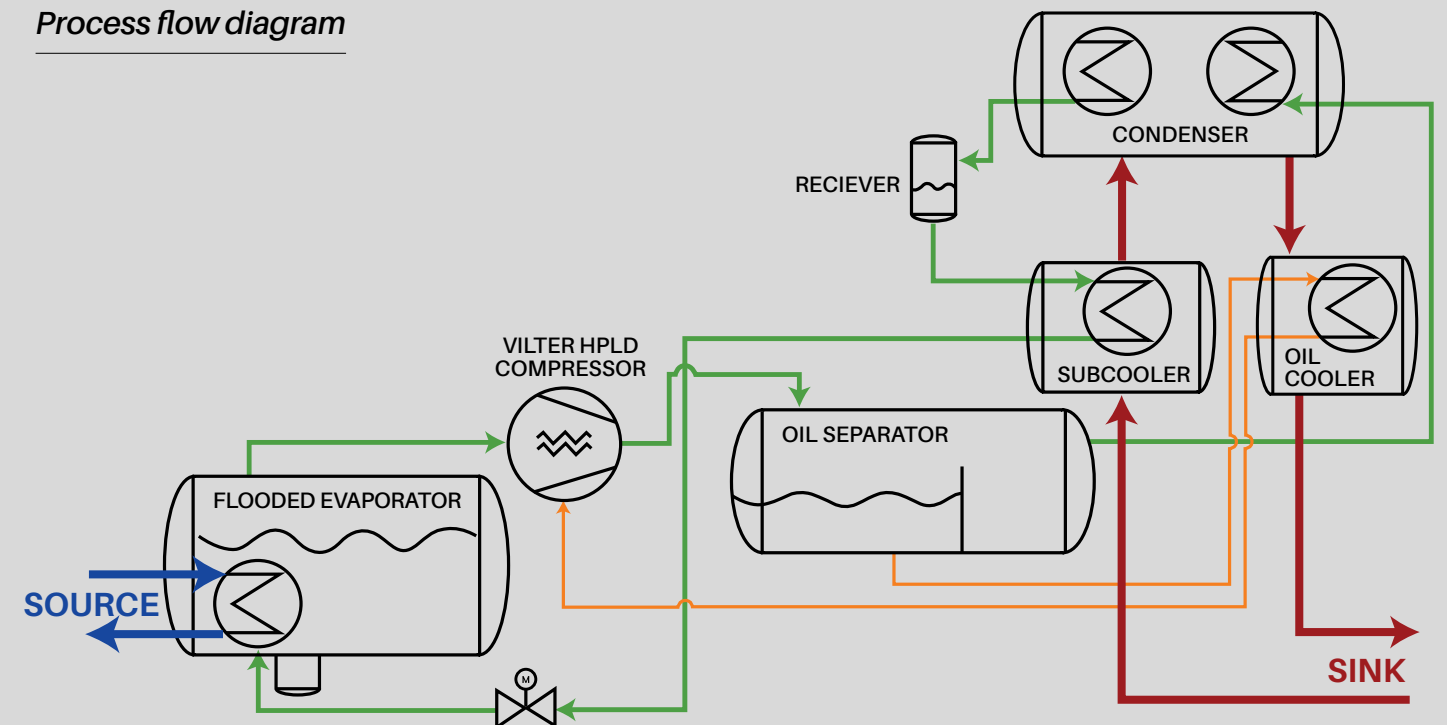
- Compact, single-skid design to support efficient installation planning and service access
- Industrial-grade monitoring and protections designed for stable operation
- Component selection aligned to industrial uptime and maintainability expectations

Vilter VQ145 technical highlights

- Working fluid: Ammonia (R717) — zero GWP
- Capacity: 0.8 to 3 MW
- Hot water: up to 145°C leaving water temperature
- Low-pressure steam: up to 1.8 bar
- 60/120 bar system ammonia
- Mechanical connection on source and sink side with standard PN25
- Compressor models: 7
- Compact single-skid design

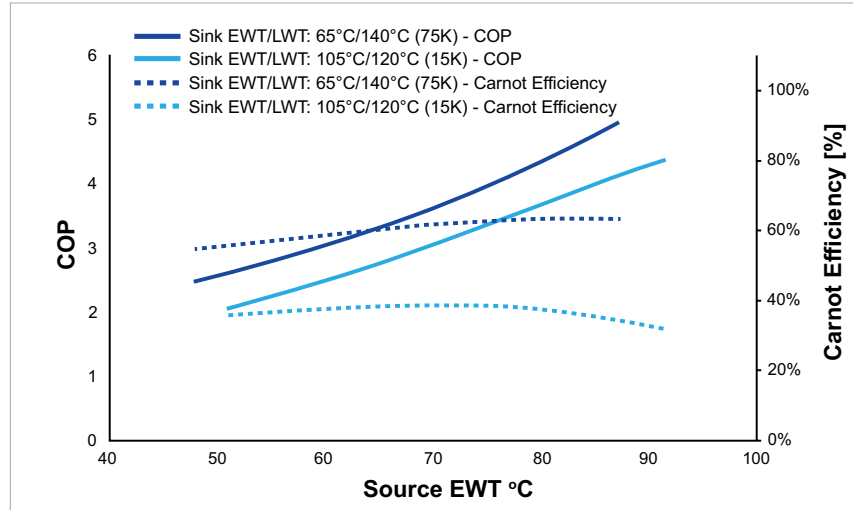
* Steam conditions and achievable performance depend on site conditions, integration approach and operating envelope. Final values provided from application engineering.

Process flow diagram

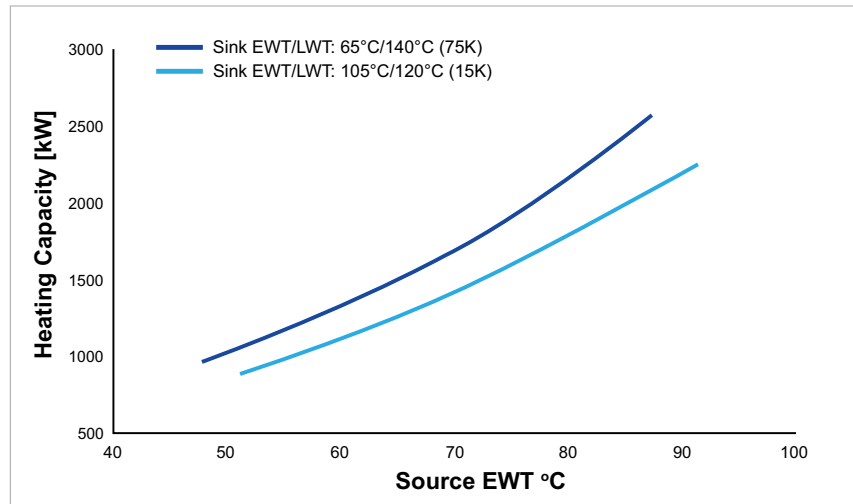


VQ145 Performance graphs

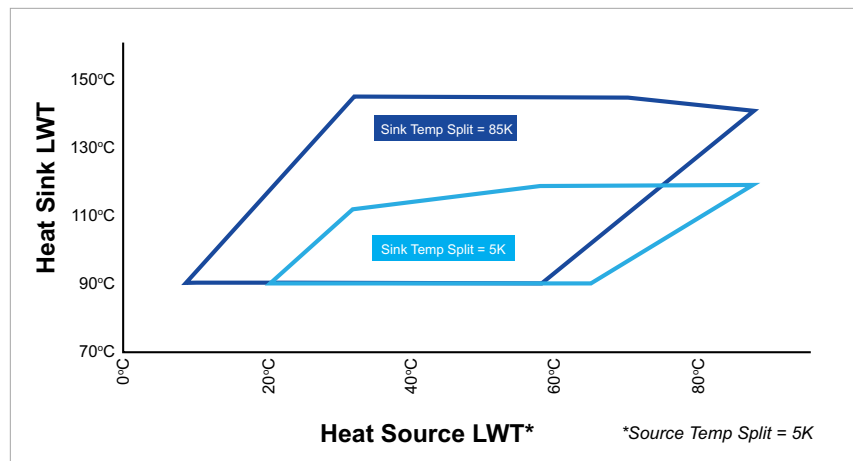
Coefficient of Performance



Heating Capacity



Operating Envelope



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