

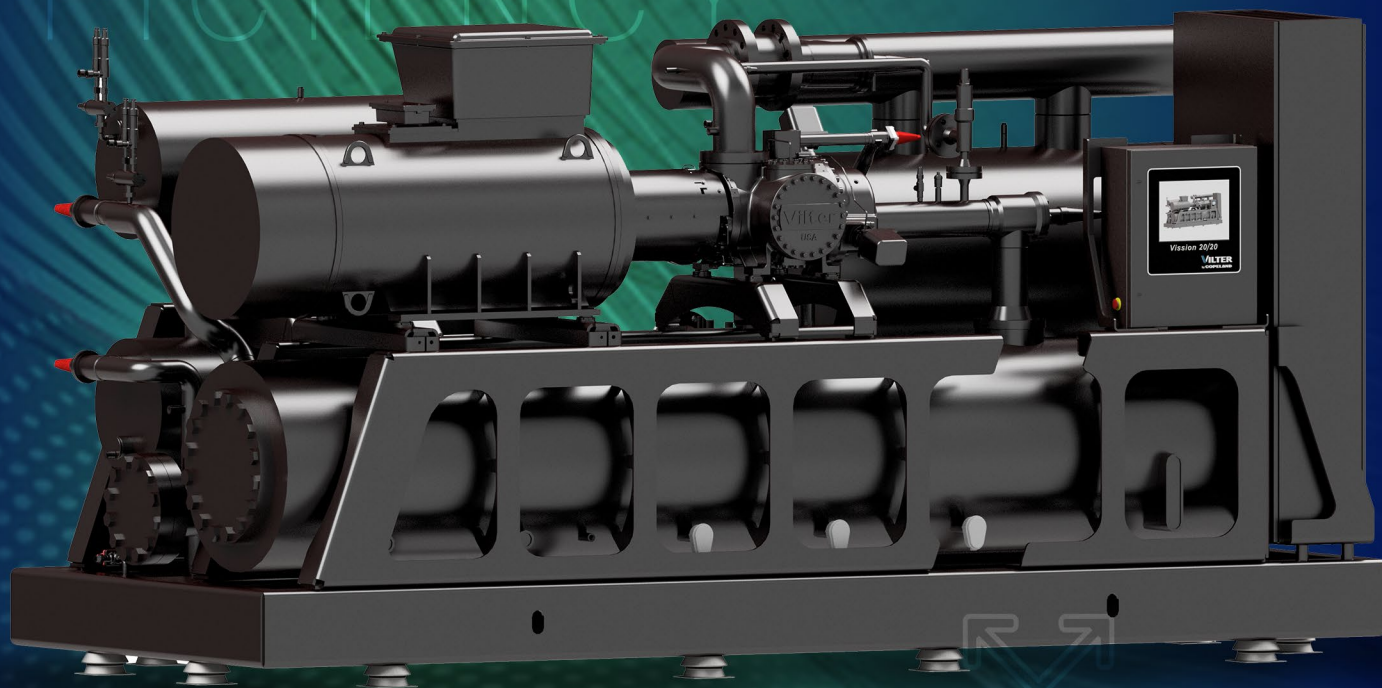
Vilter VQ95 industrial heat pump

Decarbonize heating with a simple, more reliable system.

SIMPLICITY

RELIABILITY

EFFICIENCY

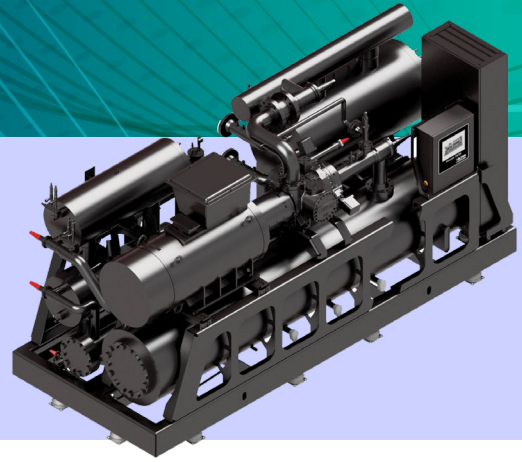


FLEXIBILITY

VILTER
by **COPELAND**

Energy transition made easy

Decarbonization and electrification of industrial heating have become key priorities in response to growing demand for greater sustainability. Changing regulations and high energy prices make industrial heat pumps increasingly attractive alternatives to fossil fuel boilers. The flexibility of a modular industrial heat pump system can simplify your path forward.



Ambitious climate goals and initiatives to reduce dependency on fossil fuel boilers are underway in many parts of the world. In addition, leading companies worldwide have made sustainability pledges targeting the decarbonization of plants and operations. As a result, demand for industrial-grade heat pumps is forecasted to grow exponentially.

Many industries have the potential to benefit from heat pump technology, especially in food and beverage production and district heating applications. Meeting sustainability targets and integrating heat pump technology into existing facilities will require a simpler solution than the bespoke systems that have typically been built on-site.

A simple, standardized decarbonization solution

The VQ95 from Vilter by Copeland is a new industrial-grade, single-stage heat pump, designed to decarbonize heating. Engineered in Denmark to meet global energy transition initiatives, the system leverages Vilter single screw technology to enable unprecedented simplicity, reliability, and flexibility. The VQ95 balances these characteristics with a compact footprint, while maximizing efficiency (COP) and minimizing total cost of ownership (TCO).

Specifications

- Leverages the full potential of ammonia (NH_3), a natural, non-ozone depleting refrigerant with zero global warming potential (GWP)
- 1–5 MW heating capacity per skid; modularity enables systems to be scaled with parallel or serial pipe connections
- Provides high standard temperature rating up to 95 °C with high lift capability in a single-stage system

Designed and built for standards compliance in Europe, Canada and the U.S.

Ideal applications

Because the heat delivered far exceeds the energy consumed, industrial heat pumps greatly reduce reliance on fossil fuels and expand opportunities to utilize renewable energy sources. The VQ95 combines these advantages with the benefits of NH_3 — a non-ozone depleting refrigerant with zero global warming impact — plus low annual operating and maintenance costs.

This natural refrigerant solution is ideal for district heating and industrial applications working to comply with regulations or achieve internal sustainability targets as part of their environmental, social and governance (ESG) goals.

Key industries served by the VQ95:



District heating



Food and beverage



Industrial manufacturing



Pulp and paper

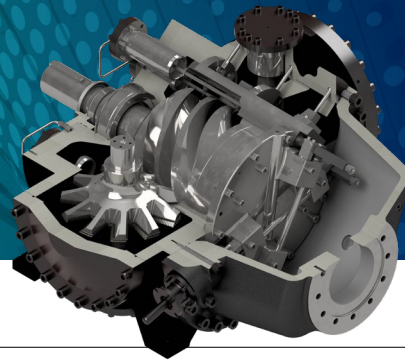


Pharma



Chemical

PROVEN FOUNDATION; COUNTLESS POSSIBILITIES



Single screw technology enables an optimized solution.

The balanced-force design of the Vilter single screw compressor easily manages the high pressures required by heat pump systems. For 15 years, Vilter products have been operating in demanding heat pump applications around the world with high uptime and excellent performance.

The Vilter single screw design is not susceptible to damage from liquid droplets. This eliminates the inefficiencies of handling superheat common in other industrial heat pump systems.

Vilter-exclusive Paralex™ slides enable the compressor to modulate capacity from 20 to 100 percent, so no variable frequency drive (VFD) is necessary.



Simplicity

The VQ95 is designed to minimize the usual complexities of quoting, installing, commissioning, operating and servicing industrial heat pumps.

The system leverages Vilter's intuitive and user-friendly Vission 20/20 PLC-based controls, which make the VQ95 easy to operate and maintain. The unit's single-stage system is inherently less complicated and has fewer moving parts than multi-stage units and can be serviced without removing the compressor from the system. Maintenance is further simplified by an easy-to-reach service access panel on each side of the compressor.

Selection and configuration are streamlined by Vilter's web-based software tool, which enables you to get a preliminary rating and footprint based on your unique specifications.



Performance

The VQ95, powered by the innovative Vilter single screw, harnesses the exceptional properties of NH₃, offering exceptional heating capacity and world-class efficiency. Its distinctive non-metal-to-metal compression design unlocks reliable performance throughout the product's lifespan, ensuring peace of mind for management and operations teams.

Our selection software is crafted to seamlessly integrate the best component combinations, optimizing the coefficient of performance (COP) and reducing total ownership costs for each application.

With its high COP and impressive high lift capabilities, the VQ95 often eliminates the need for multi-stage systems, significantly reducing overall costs.

Continuing a legacy of expertise in sustainability

Vilter by Copeland has been an early pioneer in industrial heat pump technology and continues to lead the field with groundbreaking innovations developed at their R&D centers in Denmark and the U.S. Leveraging their extensive experience and proven expertise, Vilter is well-positioned to accelerate the decarbonization of the industrial sector through advanced heat pump technology.



Reliability

The VQ95 is a complete single-stage, closed-loop NH₃ system that offers lower maintenance costs and longer mean times between service (MTBS) intervals while ensuring the longevity of your operations.

The single screw compressor delivers industrial-grade performance and reliability, and experiences little or no degradation of performance over time. Compared to some other compressor designs used in heat pumps, the VQ95 has fewer moving parts and delivers longer bearing life. In addition, the VQ95 does not use an oil pump, eliminating one of the most common causes of failure.

- Oil pump eliminated
- VFD not required
- Superheat not required

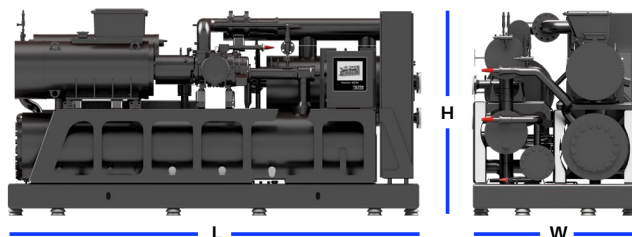


Flexibility

VQ95 heat pumps feature a flexible, modular and scalable design engineered for trouble-free production, fast installation and commissioning, and easy maintenance. A complete, optimized turnkey system is provided in a single-skid design — without compromising serviceability.

The VQ95 is available in two compact footprints that support more than 2,000 standard configurations while providing higher capacity per skid — potentially meeting application requirements with fewer units.

- High and low Delta T (ΔT) sink options available
- System design allows flexible source and sink temperatures



240 Series: 5,600 x 2,000 x 2,500 mm

310 Series: 6,200 x 2,300 x 2,800 mm

Standard performance tables

240 Series

50 HZ, 2950 RPM						
MODEL	SOURCE	SINK	PERFORMANCE*			FOOTPRINT
	Inlet/ Outlet °C	Inlet/ Outlet °C	Cooling Capacity kW	Heating Capacity kW	COPh	
VQ95-291	18 / 12	45 / 95	352	551	2.65	5600 mm 2000 mm 2500 mm
	18 / 12	70 / 80	307	515	2.37	
	50 / 45	45 / 95	1222	1464	5.79	
VQ95-341	50 / 45	70 / 80	1075	1327	5.05	
	18 / 12	45 / 95	414	645	2.68	
	18 / 12	70 / 80	360	602	2.39	
VQ95-451	50 / 45	45 / 95	1436	1719	5.83	
	50 / 45	70 / 80	1264	1558	5.09	
	18 / 12	45 / 95	592	910	2.75	
VQ95-601	18 / 12	70 / 80	515	847	2.44	
	50 / 45	45 / 95	2051	2453	5.86	
	50 / 45	70 / 80	1805	2222	5.11	
VQ95-601	18 / 12	45 / 95	688	1048	2.80	
	18 / 12	70 / 80	598	975	2.48	
	50 / 45	45 / 95	2380	2832	6.02	
	50 / 45	70 / 80	2095	2563	5.26	

60 HZ, 3550 RPM						
MODEL	SOURCE	SINK	PERFORMANCE*			FOOTPRINT
	Inlet/ Outlet °C	Inlet/ Outlet °C	Cooling Capacity kW	Heating Capacity kW	COPh	
VQ95-291	18 / 12	45 / 95	418	661	2.61	5600 mm 2000 mm 2500 mm
	18 / 12	70 / 80	372	608	2.48	
	50 / 45	45 / 95	1420	1752	5.08	
VQ95-341	50 / 45	70 / 80	1301	1591	5.27	
	18 / 12	45 / 95	491	773	2.63	
	18 / 12	70 / 80	438	712	2.50	
VQ95-451	50 / 45	45 / 95	1671	2056	5.13	
	50 / 45	70 / 80	1530	1867	5.31	
	18 / 12	45 / 95	704	1093	2.70	
VQ95-601	18 / 12	70 / 80	626	1008	2.54	
	50 / 45	45 / 95	2388	2935	5.15	
	50 / 45	70 / 80	2183	2665	5.31	
VQ95-601	18 / 12	45 / 95	817	1259	2.74	
	18 / 12	70 / 80	727	1160	2.57	
	50 / 45	45 / 95	2771	3389	5.26	
	50 / 45	70 / 80	2534	3076	5.46	

* Projected performance is based on the assumption that units are properly sized, installed and maintained.

310 Series

50 HZ, 2950 RPM						
MODEL	SOURCE	SINK	PERFORMANCE*			FOOTPRINT
	Inlet/ Outlet °C	Inlet/ Outlet °C	Cooling Capacity kW	Heating Capacity kW	COPh	
VQ95-791	18 / 12	45 / 95	960	1461	2.80	6200 mm 2300 mm 2800 mm
	18 / 12	70 / 80	846	1349	2.58	
	50 / 45	45 / 95	3650	4289	6.44	
VQ95-891	50 / 45	70 / 80	3229	3872	5.78	
	18 / 12	45 / 95	1074	1623	2.84	
	18 / 12	70 / 80	947	1496	2.62	
VQ95-1051	50 / 45	45 / 95	4084	4786	6.54	
	50 / 45	70 / 80	3613	4319	5.87	
	18 / 12	45 / 95	1511	2238	2.95	
VQ95-1201	18 / 12	70 / 80	1332	2062	2.71	
	50 / 45	45 / 95	5013	5870	6.57	
	50 / 45	70 / 80	4431	5296	5.88	
VQ95-1201	18 / 12	45 / 95	1670	2450	3.02	
	18 / 12	70 / 80	1473	2255	2.77	
	50 / 45	45 / 95	5537	6452	6.77	
	50 / 45	70 / 80	4896	5818	6.06	

60 HZ, 3550 RPM						
MODEL	SOURCE	SINK	PERFORMANCE*			FOOTPRINT
	Inlet/Outlet °C	Inlet/Outlet °C	Cooling Capacity kW	Heating Capacity kW	COPh	
VQ95-791	18 / 12	45 / 95	1130	1731	2.77	6200 mm 2300 mm 2800 mm
	18 / 12	70 / 80	1019	1609	2.62	
	50 / 45	45 / 95	4313	5137	5.99	
VQ95-891	50 / 45	70 / 80	3887	4649	5.86	
	18 / 12	45 / 95	1268	1926	2.81	
	18 / 12	70 / 80	1141	1789	2.65	
VQ95-1051	50 / 45	45 / 95	4827	5732	6.08	
	50 / 45	70 / 80	4348	5187	5.94	
	18 / 12	45 / 95	1784	2662	2.91	
VQ95-1201	18 / 12	70 / 80	1605	2465	2.75	
	50 / 45	45 / 95	5871	6993	5.99	
	50 / 45	70 / 80	5334	6360	5.95	
VQ95-1201	18 / 12	45 / 95	1973	2915	2.97	
	18 / 12	70 / 80	1775	2700	2.80	
	50 / 45	45 / 95	6476	7683	6.11	
	50 / 45	70 / 80	5894	6990	6.12	

About Copeland

Copeland, a global provider of sustainable climate solutions, combines category-leading brands in compression, controls, software and monitoring for heating, cooling and refrigeration.

With best-in-class engineering and design and the broadest portfolio of modulated solutions, we're not just setting the standard for compressor leadership; we're pioneering its evolution. Combining our technology with our smart energy management solutions, we can regulate, track and optimize conditions to help protect temperature-sensitive goods over land and sea, while delivering comfort in any space. Through energy-efficient products, regulation-ready solutions and expertise, we're revolutionizing the next generation of climate technology for the better. For more information, visit copeland.com.



Interested to learn more about our industrial heat pump solutions? Connect with our sales team at vilter.com/contact.

To learn more, visit [Copeland.com](https://copeland.com)

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