



The Silent Revolution

Copeland Low Sound Scroll Compressors

Low Sound Compressors



Pioneering quiet efficiency in heat pump technology

As the market for decarbonized heating solutions grows, Copeland is at the forefront with our new generation of low sound scroll compressors designed for hydronic heat pumps. Our technology offers manufacturers the opportunity to enhance their competitive edge by reducing noise and maximizing efficiency.

Discover our new low sound scroll compressors, designed to meet diverse heating needs from 6 to 27 kW. Noise reduction is a central aspect of our innovation, setting new standards for quieter living environments. Join us as we explore the 'Silent Revolution' in the heat pump industry.

The Silent Revolution: Why noise matters

As the world recognizes the role of heat pumps in decarbonization, Copeland is pushing boundaries further by addressing the next challenge beyond energy efficiency and natural refrigerants: sound. Our scroll compressor technology is turning heads by reaching a new level of quietness while delivering best-in-class efficiency.

Our compressors are 50% quieter
Noise pollution, increasingly under scrutiny, poses challenges, especially as urban spaces shrink. Copeland low sound scroll compressors enable significant noise reduction, making them ideal for compact and densely populated settings. Our technology ensures that heat pumps can be a peaceful part of homes and communities, enhancing comfort without compromise.

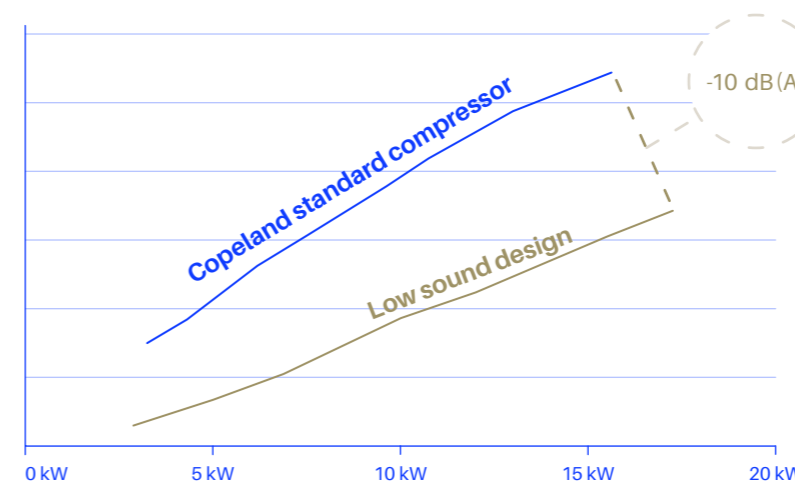
Noise pollution – a key issue in urban areas*



*Data from the German market

Decimating decibels

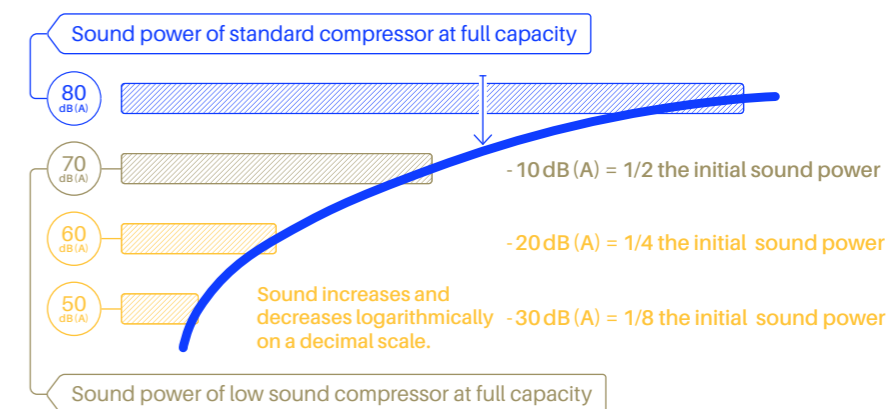
Explore how our advanced compressors redefine quietness in operational settings



Data points from our sound lab reveal: compared to conventional Copeland scroll compressors, our low sound compressors achieve a noise reduction of 10 dB(A), especially at high outputs.

Minus 10 dB(A) translates into "half"

Sound is measured on an logarithmic scale. This means that even a few decibels make a big difference. In fact, a reduction of 10 dB(A) is equivalent to half of the original sound power level.



YHV*RG

YHV*HG

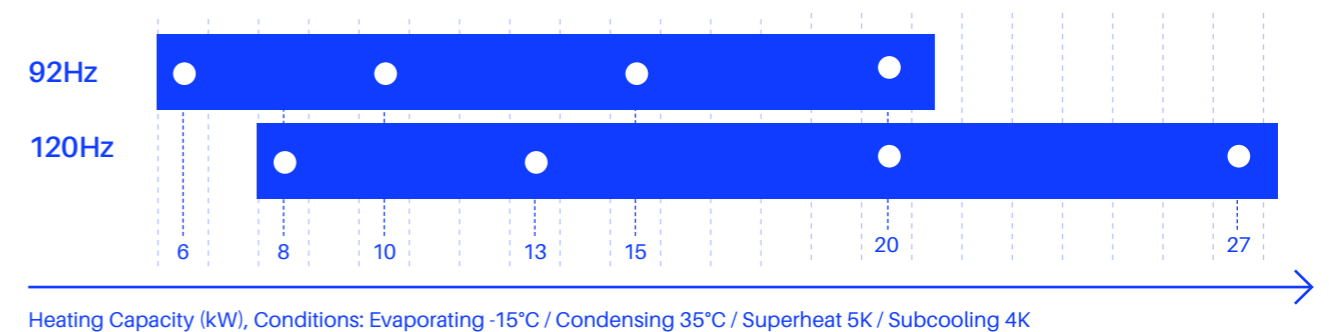


In addition to the YHV*RG 92 Hz range, we are proud to introduce a new YHV*HG 120 Hz version, offering a higher maximum speed to enhance the flexibility in selecting the right sound level, performance, and system applied cost for our customers.

This expanded lineup includes models YHV029HG (S), YHV046HG (M), YHV072HG (L), and YHV094HG

(XL), providing a comprehensive solution for various requirements. Exclusively designed with R290 refrigerant, they mirror the performance and exceptional sound characteristics of the 92 Hz version until 5500 rpm. On top of that, they feature a boost function, enabling them to reach even higher capacities at low ambient temperatures, reaching the speed of 7200 rpm (120 Hz).

Low sound platform heating capacity



Low sound, full range, future-proof

Copeland low sound compressors for heat pumps come in four sizes, for low GWP and natural refrigerants.

Four sizes, two refrigerants

Size	S			M			L			XL			
Displacement	29cc			46cc			72cc			94cc			
Frame size	53 Fr.			53 Fr.			63 Fr.			63 Fr.			
Height (mm)	368			368			414			435			
Diameter (mm)	216			216			229			228			
Matched drive*	3ph	-			✓			✓			✓		
	1ph	✓			✓			✓			-		
Model	YHV29RG	YHV29RT	YHV29HG	YHV46RG	YHV46RT	YHV46HG	YHV72RG	YHV72RT	YHV72HG	YHV94RG	YHV94RT	YHV94HG	
Refrigerant	R290	R454C	R290	R290	R454C	R290	R290	R454C	R290	R290	R454C	R290	
Heating capacity (kW)**	6	6	8	10	10	13	15	15	20	20	20	27	
Max. speed (Hz)	92	92	120	92	92	120	92	92	120	92	92	120	
Max. speed (Rpm)	5500	5500	7200	5500	5500	7200	5500	5500	7200	5500	5500	7200	

* Please contact Copeland sales/marketing for details of all available drive models and options

** Conditions: Evaporating -15°C / Condensing 35°C / Superheat 5K / Subcooling 4K

Copeland variable speed low sound scroll compressors are available with cooling and heating capacities ranging from 6 to 27 kW. Compared to conventional compressors, the low sound scroll compressors achieve a noise reduction of 10 db(A), which corresponds to half the sound power. These scroll compressors reliably

achieve A+++ performance in air-to-water heat pumps at a reference temperature of 55°C. The improved efficiency corresponds to an increase of 5% in seasonal coefficient of performance (SCOP) compared to the previous generation of compressors.

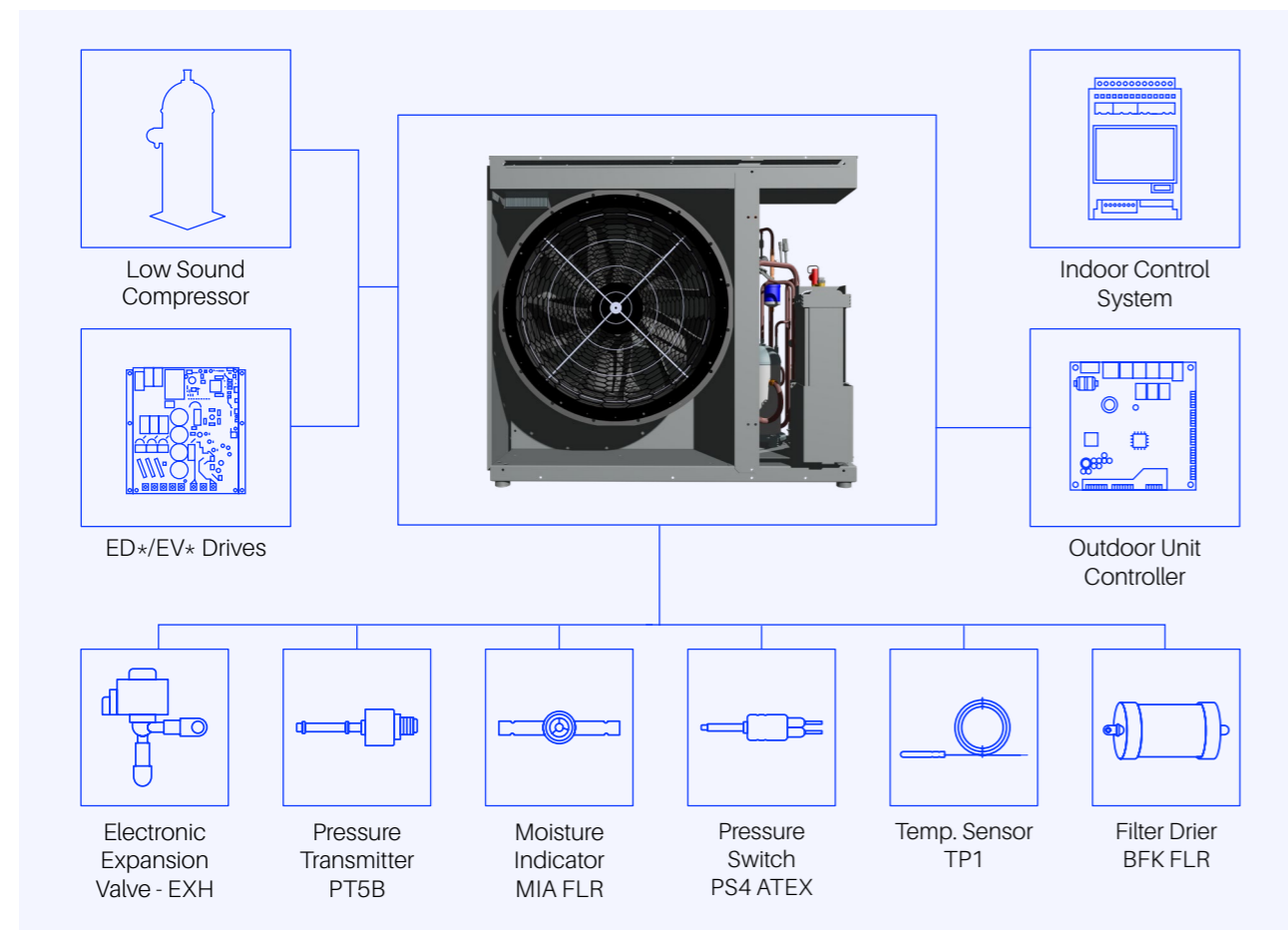
Copeland solution for a pre-qualified system

Copeland low sound scroll compressors for hydronic heat pumps open up serious growth potential for manufacturers in the decarbonized heating market. Based on an innovative technology and one product range, they can maximize savings in applied costs or minimize noise for a competitive edge – and everything in between.

To shorten time to market and give manufacturers an advantage over the competition and peace of mind, Copeland has developed a pre-qualified package for building low-noise, high-efficiency heat pumps. This plug-and-play package includes the low sound scroll compressor, an optimally matched drive and the new advanced parametric Outdoor Unit Controller (OUC).

Supported by advanced algorithms and proprietary data, the OUC manages all key functions of monoblock heat pumps in an intelligent way: compressor envelope, heating capacity adjustment, low superheat management, smart defrost strategies. Additionally, it can control auxiliary components such as fans and water pumps, supporting dual expansion capability for flexible operation in both heating and cooling modes. With its advanced alarm management and fault detection and diagnosis features, the system monitors itself, helping manufacturers avoid potential issues and reduce downtime. The OUC provides numerous predefined options, as well as additional customization options to meet specific needs.

Variable speed solution for heat pumps



Double your benefits: maximize savings, minimize noise

Our full portfolio of matching and mutually optimized components for hydronic heat pumps scale up the efficiency of your system and help you decrease your time to market. We can make it work for you!

Key benefits of Copeland low sound scroll technology for heat pumps



1

The quietest compressors currently on the market

Copeland low sound scroll compressors achieve a noise reduction of 10 db(A) versus standard technology.



2

No compromises on efficiency

The low sound compressors will achieve A+++ performance in a hydronic heat pump system.



3

Low sound also means lower costs

Less material used = more money saved and still lower sound emissions.



4

Future-proof technology

Extensive track record with natural refrigerants: close to 400K scroll compressors sold since 2014.

For more details, see copeland.com/en-gb

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