

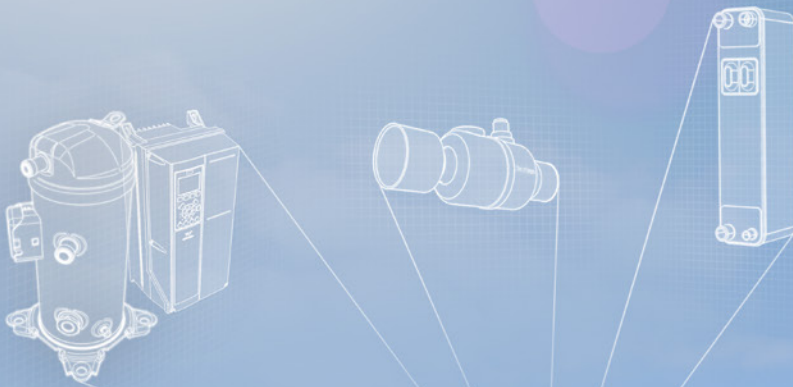
ENGINEERING  
TOMORROW

*Danfoss*

Danfoss Solutions for Heat Pumps

# Improve your solution with **360° energy efficiency**

Experience the power of 360° efficiency with our market-leading expertise and wide product portfolio for residential and commercial heat pumps. Like a chain of positive events, the solutions provide higher energy efficiency, reduce development time, CO<sub>2</sub> emissions, and the total cost of ownership. All to improve the state of your business – and our planet.



Add

**One**

or more Danfoss  
components to  
maximize your heat  
pump efficiency

[heatpumpsolutions.danfoss.com](http://heatpumpsolutions.danfoss.com)



# One partner. One philosophy. **Multiple benefits.**

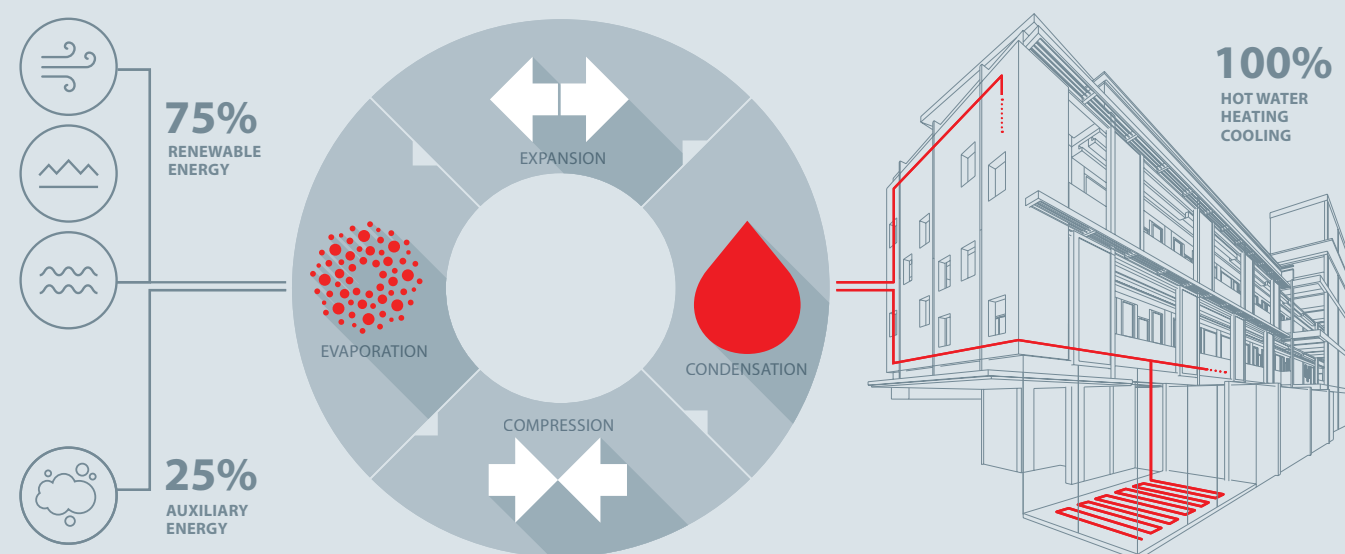
As a professional, you know about the importance of choosing the right components, whether you are producing heat pumps for residential applications or commercial applications of over 20 kW.

Every single component from compressor to control unit makes a vital contribution to the smooth running and efficiency of your heat pump system. Therefore, you need a partner who can deliver a wide range of efficient and reliable components.

## A 360° source of improvement

To improve your solutions with 360° energy efficiency, you need to work with partners who fully understand heat pump applications and who know how all the elements in your system add up to maximize your heat pump efficiency.

At **Danfoss**, we apply our state-of-the-art technological knowledge and market experience to the engineering of specially adapted heat pump components. So, with **Danfoss** you get a dedicated partner who can develop and fine-tune individual components in your applications, supporting you in the drive for higher energy efficiency, and delivering a reduction in development time, CO<sub>2</sub> emissions, and total cost of ownership.



## Work smarter with the right supplier

Studies show that you reap significant financial benefits just by reducing the number of suppliers you work with by a single one.

How? Because a reduced and optimized supplier base makes your daily operations more efficient since there is less of everything - from developing a design and placing an order to managing deliveries.

**All in all, these small efficiency gains result in impressive cost reductions to your business.**



## It pays to go green

Today, achieving higher energy efficiency is not only key to improving your business but also crucial for the well-being of our planet. Therefore, you need heat pump components that comply with – or even exceed – the most stringent refrigeration legislation and help reduce your CO<sub>2</sub> emissions and total cost of ownership.



## Team up with Danfoss

In our Application Development Centers (ADCs), OEMs can work closely together with **Danfoss** application experts. This enables you to develop innovative refrigeration and air conditioning solutions that meet future energy challenges and bring new products faster to market.

Learn more at [adc.danfoss.com](https://adc.danfoss.com)



Parts of value

# Superior components that meet your needs

At **Danfoss**, we strive to help improve your business. Therefore, we are proud to offer you a wide range of components precisely adapted to meet the needs of your heat pump systems. So, are you ready to experience the power of 360° energy efficiency?

## Compressors

**Danfoss** offers an optimized range of scroll compressors for use in residential and commercial heat pumps from 5 to 160 kW.

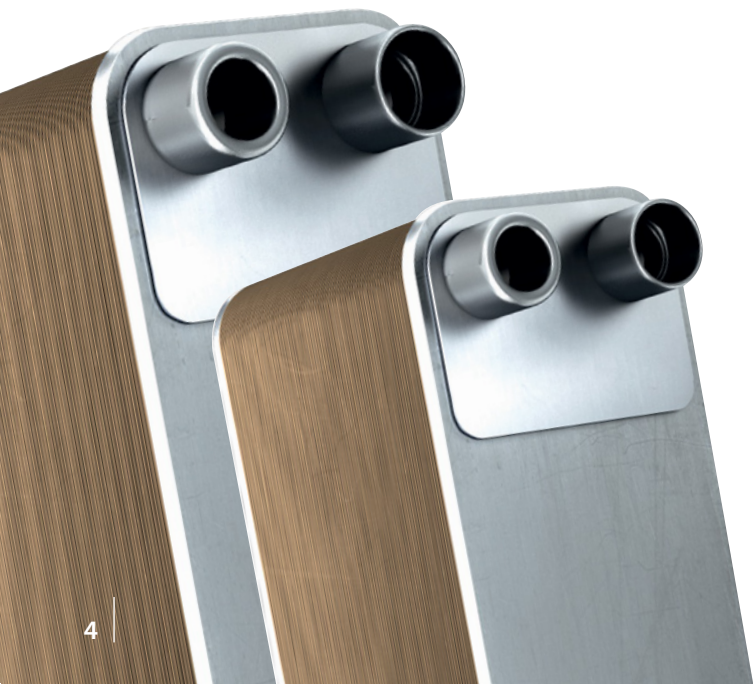
Our PSH scroll compressors for commercial heat pumps come with a new innovation: a unique Liquid Injection solution to extend the operating envelope and ensure an efficient run even in very cold climates for enhanced protection and reliability.

In addition, our variable speed range VZH and its associated drive from 11 to 180 kW suitable to cover residential and light commercial brine to water and ground to water heat pump applications.



## Heat Exchangers

With our new H-range Micro Plate Heat Exchangers (MPHEs), you get high efficiency in either air- or ground-source heat pumps. Thanks to the design, the heat exchangers only utilize the minimum amount of raw materials, resulting in immediate cost savings and long-term price stability.



## Controllers

Choose from our wide range of controllers for heat pump applications to effectively manage the energy efficiency of your business.

All controllers are based on a global, open and flexible platform, and can be programmed using standard communication protocols, which eases your development and manufacturing process, reducing your costs and improving time to market as a result.



## Line Components

At **Danfoss**, we offer a comprehensive selection of compact line components.

All line components are suitable for a variety of applications, such as diagnostics and performance monitoring, due to their light weight and high accuracy. This gives you optimum installation and connection flexibility, resulting in more efficient product development.



## Expansion Devices

Get ready to apply our well-proven electric or thermostatic expansion devices in your heat pumps and provide your customers with superior energy efficiency and reliability.





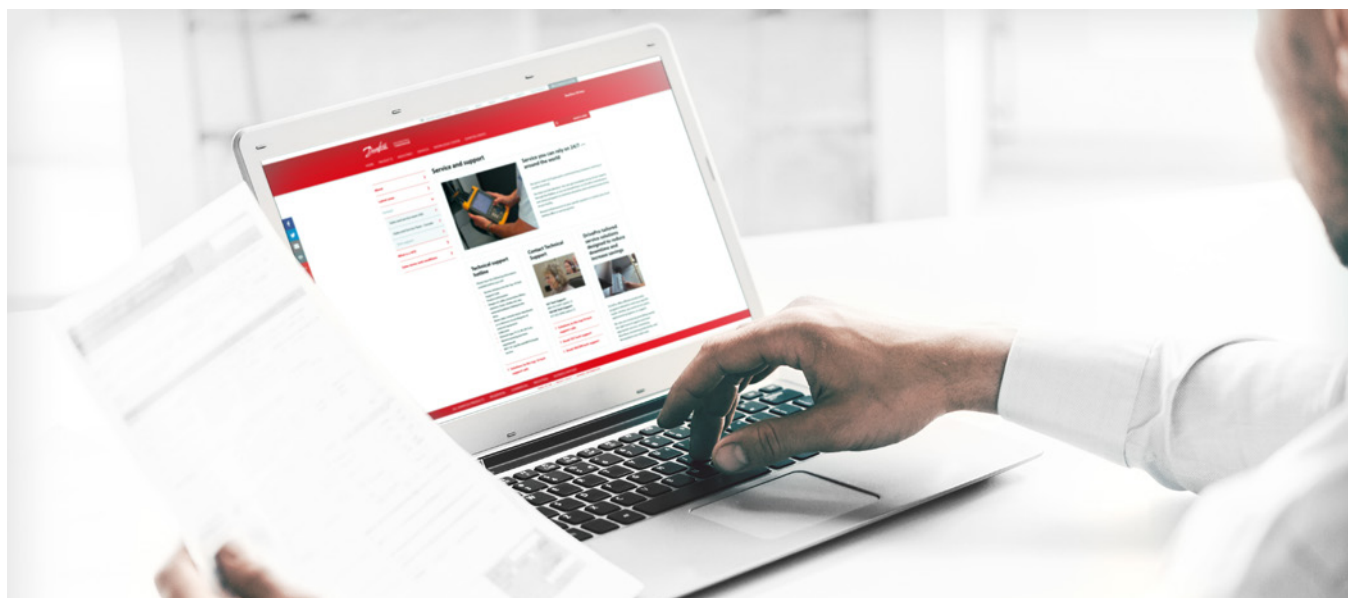
# Range overview for sanitary hot water, A/W and brine or water source Heat Pumps

At **Danfoss**, we are dedicated in the development of components for low-GWP refrigerants. Our dedication not only stems from our ambition to abate global warming but also our drive to fulfill customer's need for safe and energy efficient solutions. And that is why, you can find a full program of components for CO<sub>2</sub>, ammonia, and hydrocarbons in our product portfolio.

	<div>  </div> <div>Sanitary Hot Water Heat Pump</div>	<div>  </div> <div>Air / Water Heat Pump</div>	<div>  </div> <div>Ground source HP (Brine) / Water Heat Pump</div>
PSH Medium 019-039 7.5-15T	✓	✓	✓
VZH M/L 13-26T- 1			✓
Heat exchanger MPHE/BPHE		✓	✓
Main controller	✓	✓	✓
Expansion valves	✓	✓	✓
Superheat controller		✓	✓
Temp & Pressure sensors	✓	✓	✓
Pressure switch	✓	✓	✓
Solenoid valve	✓		
Filter Driers	✓	✓	✓
Ball valve		✓	✓
Check valve	✓	✓	✓
Sight glass		✓	✓
4 way valve			✓

Reduce

development time and costs with highly energy efficient heat pump system components



## More **Refrigerant Info**

The **Danfoss** range of heat pump components reflects the global need for energy efficient and environmentally friendly solutions.

Read more about energy efficiency  
and your refrigerant options at  
**[refrigerants.danfoss.com](http://refrigerants.danfoss.com)**



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### Access our **online services 24/7**

You can find many helpful resources on our website, including product catalogs, educational and training programs, downloadable manuals and mobile applications.

#### **Explore our online self-service websites to learn more:**

- Heat pump components:  
[heatpumpsolutions.danfoss.com](http://heatpumpsolutions.danfoss.com)
- Learning platform:  
[learning.danfoss.com](http://learning.danfoss.com)
- Heat Exchanger Design Software:  
[hexact.danfoss.com](http://hexact.danfoss.com)
- Product selection:  
[coolselector.danfoss.com](http://coolselector.danfoss.com)

