

A leap forward



Vaillant introduces the natural refrigerant R290 in heat pumps

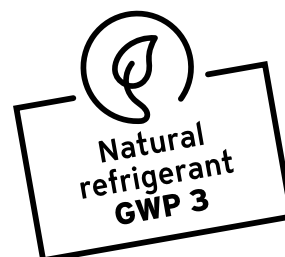
Setting new standards in the heating market has been Vaillant tradition for years. Now we are leveraging our expertise to help protect the climate - by introducing the natural refrigerant R290 for our heat pump product range. It has clear advantages over alternative refrigerants: approx 75% less filling quantity is needed; it has low global warming potential * (GWP) and provides significant product benefits for your customers. Using R290 means Vaillant heat pumps can achieve a high flow temperature of up to 75°C if required. Setting the flow to this maximum temperature for hot water means that an electric immersion heater for legionella protection isn't necessary. The new aroTHERM plus is one of our first products to use R290 and more will follow in the future.

What is R290?

It's the technical name for the natural refrigerant also known as propane. R290 is already commonly used in many parts of our daily life, such as in refrigerators, air conditioning or even hairspray - Vaillant is one of the first companies to introduce this refrigerant in heat pumps.

R290 brings unbeatable benefits to our heat pumps:

- Improved SCOP of up to 4.9 for lower running costs
- Flow temperatures of up to 75°C from the heat pump are achievable
- Higher hot water comfort and legionella protection without back-up heater due to a wide working envelope from -25 to +46°C
- Low GWP of 3 - exceptionally eco-friendly
- Stable service costs over product life cycle



* What is global warming potential (GWP)?

GWP is a comparative value that indicates the greenhouse effect of a greenhouse gas, such as a refrigerant, if it were to be released into the environment. The higher the value, the worse the impact on the climate.

Exemplary GWPs of some refrigerants:

CO ₂	1	The value indicates the amount of CO ₂ which has an equal global warming effect. To calculate the CO ₂ impact of a refrigerant, the amount contained in the heat pump is multiplied by its GWP value.
R290	3	
R32	675	
R410A	2,088	

Exemplary calculation

R410A
1.8 kg of R410A x 2,088 GWP
= 3,760 kg CO₂

R290 (aroTHERM plus)
0.6 kg of R290 x 3 GWP
= 1.8 kg CO₂



13-hour flight
from London to
Kuala Lumpur



15 km
drive by car



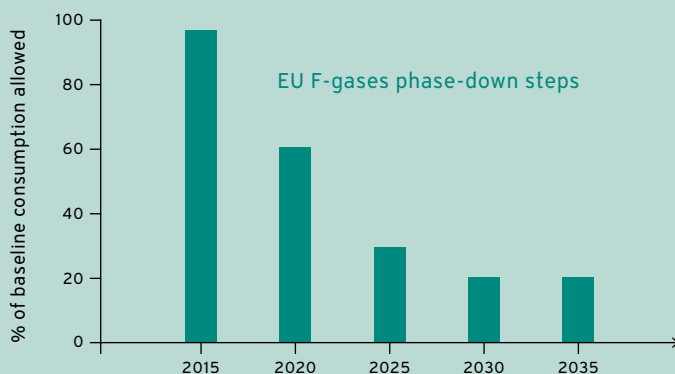
Comfort for your home

What does the switch to R290 mean for you?

By using R290 with monobloc technology in aroTHERM plus heat pumps, the Seasonal CoEfficient of Performance is increased and energy and running costs can be reduced.

The aroTHERM plus produces zero emissions at the point of use.

EU legislation to reduce F-gases



The F-gas regulation came into force in 2015. Its goal is to phase down the use of these gases to 20% of 2014 sales by 2030, as well as to ban the use of certain F-gases where less harmful alternatives are widely available.

In the growing market for heat pumps, there are two ways to do this. Firstly by using a refrigerant with a lower GWP, and secondly by reducing the actual amount of refrigerant used in a product. The new aroTHERM plus provides both advantages: **it reduces GWP and the refrigerant used in a product.**

Trust in Vaillant



As one of the world's market leaders in heat pump technology and with more than 140 years of experience in designing and manufacturing heating appliances, Vaillant has always been the pacemaker in the heating industry. The quality of our products is unrivalled. We ensure our reputation for quality is maintained with 100% production in Europe, comprehensive test centres and rigorous safety checks throughout the entire life cycle of our heat pumps.

Of course, the achievements of Vaillant rely on the exceptional work of our trained installers all over the world. We can continue this success story and lead the way into a cleaner and more profitable future together.



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