

TECHNICAL DATASHEET

Active noise cancelling system for heating and cooling appliances.

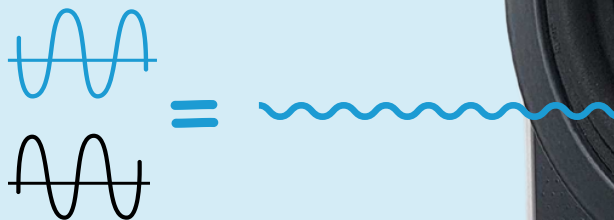
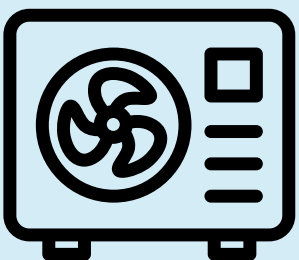
Product Overview

In the realm of heat pump operation, Humble stands out as a pioneering solution tailored to address the persistent challenge of low-frequency humming noise. Unlike conventional approaches, Humble specifically targets tonal noise, characterized by its dominance of distinct tones rather than broad spectrum noise. Comparable to the incessant buzz of a mosquito, tonal noise, even at seemingly low levels, can be remarkably discomforting.

Humble redefines comfort by seamlessly integrating Active Noise Cancelling (ANC) technology within the heat pump compressor compartment. Here's how it works: in real-time, Humble identifies and captures problematic tones, swiftly generating counteractive "anti-noise" to effectively mitigate their impact. By harmonizing cutting-edge innovation with unparalleled performance, Humble sets a new standard for tranquillity in heat pump environments.

Active Noise Cancelling technology*

similar to noise cancelling headphones



The only solution that can stop the humming noise coming through closed windows.



Fully integrated

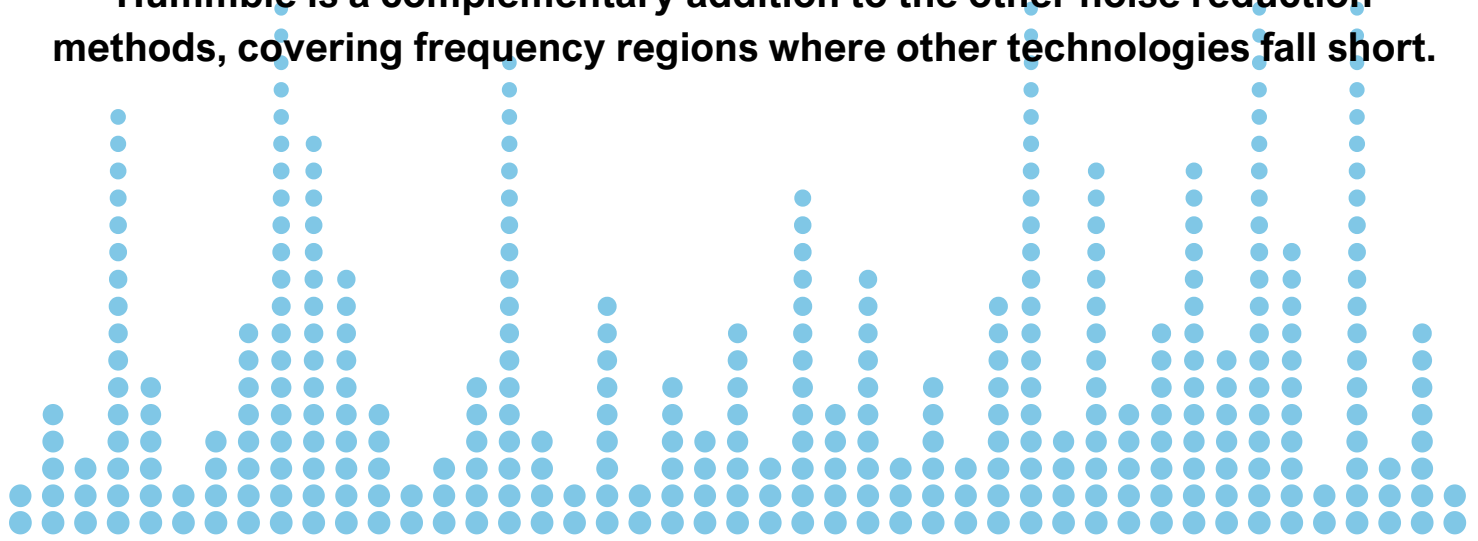
Easy to install

Autonomous

Future-proof

Connected

Humble is a complementary addition to the other noise reduction methods, covering frequency regions where other technologies fall short.



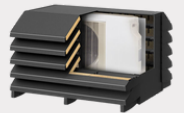
Low frequency tonal noise



Low frequencies are hard to stop any existing passive noise reduction technology. They travel through closed windows, inside the living spaces, negatively affecting the quality of life.

High frequency broadband noise and sharp noise

Noises in this region are efficiently reduced by passive reduction techniques. Noises of higher frequencies don't travel through walls and windows.



Electrical and Physical Specifications

Power rating	12V DC, 35W
Dimensions	170mm x 90mm x 60mm
Weight	725 g
Temperature range	-20°C - 60°C ambient
Humidity range	0% - 100%, condensing
IP rating	IPX6
Enclosure material	PETG
Interface	UART, MODBUS
Certification	CE, Atex, RoHS
Warranty	24 months limited warranty

Acoustic Specifications

Frequency range	80 - 300 Hz (depending on the installation)
Attenuation Type	Tonal reduction
Mean Attenuation	10 dB on each tone
System Controller type	Adaptive Feed-forward
Frequency detection	Automatic
SNR	62 dB
Output power	20 W
Impedance	8 Ohm