



Joint Statement EHPA & EHI on Sound power level

Interim report on WG1, 2 & 3 for the review Lot 1 & 2

May 2021

The European Heat Pump Association (EHPA) and the Association of the European Heating Industry (EHI) have many concerns on VHK's approach aiming to replace the acoustic test conditions in Regulation (EU) 813/2013.

EHPA and EHI strongly believe that the test conditions shall allow to use all acoustic generic test methods already specified and used in the standard EN 12102-1 without needs of modifying test facilities (such as reverberant rooms) nor possible damage of the instrumentation (sound probes, analyser) due to low temperature and/or frosting conditions. Therefore, the outdoor temperature shall not be lower than 7 °C for heat pumps using air as heat source. Furthermore, test method has to be applicable to all heat pumps independent from specific design options such as capacity control. It shall provide useful, reproducible and realistic results to enable a fair comparison of products in view of consumers.

While EHPA and EHI suggested different Ecodesign, Energy Labelling and information requirements, we would like to highlight that both associations recommend the same alternative method to measure sound power level. EHPA & EHI believe that we should build on the finding of IEA, Annex 51. Annex 51 results show that when assessing a kind of "seasonal dB", the sound power level measured at the outdoor temperature of 2°C is a predominant value, due to the sound power level itself and the occurrence of the temperature bins around 2°C, and thus can be considered as representative of the noise over the heating season. Therefore, EHPA & EHI suggest that the sound power level should be measured at an outdoor temperature of 7 °C using the compressor and fan settings of condition B (2 °C) from EN 14825 under average climate conditions.

It might happen that some units are not able at 7 °C to operate at the settings (e.g. compressor and fan speed or stage) of the condition B (2°C). In that case the manufacturer shall provide the maximum outdoor temperature at which declared settings of B condition can occur. This outdoor temperature shall be used for the sound power test.

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Table 1: testing conditions for heat pumps

	Heat source temperature	Water supply temperature	compressor(s) and fan(s) settings from EN 14825
Air to water	7(6)°C ^b	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition B (outdoor temperature 2 °C)
Brine to water	0°C	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition B (outdoor temperature 2 °C)
Water to water	10°C	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition B (outdoor temperature 2 °C)
Exhaust air to water	20°C	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition B (outdoor temperature 2 °C)
Direct exchange	4°C	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition B (outdoor temperature 2 °C)
^b In case the settings declared at B condition cannot be achieved at +7(6)°C, the manufacturer shall provide the maximum outdoor temperature at which declared settings of B condition can occur.			

For Hybrid heat pumps, the temperature above which the boiler is switched off ($T_{fb,off}$) shall apply instead of condition B (2°C).

	Heat source temperature	Water supply temperature	compressor(s) and fan(s) settings from EN 14825
Air to water	7(6)°C ^b	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition F (outdoor temperature $T_{fb,off}$)
Brine to water	0°C	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition F (outdoor temperature $T_{fb,off}$)
Water to water	10°C	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition F (outdoor temperature $T_{fb,off}$)
Exhaust air to water ^b	20°C	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition F (outdoor temperature $T_{fb,off}$)
Direct exchange	4°C	Medium temperature application (55°C) or Low temperature application (35 °C)	as declared at condition F (outdoor temperature $T_{fb,off}$)
^b In case the settings declared at $T_{fb,off}$ condition cannot be achieved at +7(6)°C, the manufacturer shall provide the maximum outdoor temperature at which declared settings of $T_{fb,off}$ can occur. The boiler shall remain off during the test, whatever the outdoor temperature condition.			

Table 2: testing conditions for hybrid heat



About EHPA:

The European Heat Pump Association (EHPA) is a Brussels based industry association which aims at promoting awareness and proper deployment of heat pump technology in the European marketplace for residential, commercial and industrial applications.

EHPA provides technical and economic input to European, national and local authorities in legislative, regulatory and energy efficiency matters. All activities are aimed at overcoming market barriers and dissemination of information in order to speed up market development of heat pumps for heating, cooling and hot water production.

EHPA coordinates quality initiatives: including the HP KEYMARK, a Quality label for heat pumps and Certification standards for heat pump installers. The association compiles the annual heat pump statistics and organizes a number of events, among them an annual heat pump conference.

About EHI:

EHI, the Association of the European Heating Industry, represents 90% of the European market for heat and hot water generation, heating controls and heat emitters, 75% of the hydronic heat pump market, 80% of the biomass central heating market (pellets, wood) and 70% of the solar thermal market.

EHI Members produce advanced technologies for heating in buildings, including heating systems, burners, boilers, heat pumps, components and system integrators, radiators, surface heating & cooling and renewable energy systems. In doing so, we employ directly more than 125.000 people in Europe and invest more than 1 billion euros a year in energy efficiency.

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