

Joint position on the review study on space and combination heaters (Lot 1)

28th May 2019

System temperature

Comment: The Review Study on Boilers - Task 6 Draft recommends that for existing buildings the heat pumps should be rated according to the High Temperature (rated $T_{\text{supply}} 65^{\circ}\text{C}$, $\Delta T=10\text{K}$) regime and not the current Medium Temperature regime (rated $T_{\text{supply}} 55^{\circ}\text{C}$, $\Delta T= 8\text{K}$). However, we do not consider that the demonstration provided in the report can support the proposal for the increase of the temperature supply.

In view of the implementation of the Directive (EU) 2018/844 on the Energy Performance of Buildings Directive (EPBD), insulation of buildings will be significantly improved. To that end, the EPBD has mandated individual room or zone thermostatic controls in new buildings when replacing the heat generator. EPBD's higher energy efficiency targets will lead to better insulated buildings, which in turn will also require lower-temperature heating systems. This will help moderating the concerns mentioned within the Review Study regarding the lack of appropriate temperature controls. A move to requiring a High Temperature regime for all heat pumps will pre-empt any benefits from the new requirements of the EPBD, such as higher air tightness and better indoor temperature controls.

High temperature heat pumps able to supply 65°C water temperature can be found on the market; however, these products are dedicated to a niche market and do not represent the vast majority of systems and applications.

The scope of Regulation 811/2013 covers heat pumps up to 400kW heating capacity as well and not just residential applications. Many commercially used heat pumps are set to produce water leaving temperatures of around 45°C . The proposed 65°C regime can therefore not be reached by many of these products, without using electrical supplementary heaters and could effectively ban efficient products.

Heat pumps for space heating should not be designed for higher water leaving temperatures than 55°C, even though many heat pumps are able to reach temperatures above 60°C. Longer product lifetime and efficient product operation require the design to be lower than the maximum water leaving temperatures.

Proposal: We recommend keeping the Medium Temperature regime testing at rated T_{supply} 55°C, which corresponds to the medium temperature application specified in the existing standard EN 14825.

Testing methods – the dynamic test method

Comment: The Review Study on Boilers – Draft Tasks 6 recommends the introduction of the dynamic compensation test method. This method, suggested by a report from BAM, was analysed theoretically and experimental investigations are still ongoing with the aim to develop an optimized test procedure with improved feasibility and reliability. The new method should be quicker, repeatable, easy to use, accepted by laboratories and manufacturers. It should be applicable to all products in the scope of EN 14825.

So far, the laboratories that have experienced the dynamic compensation test method have found that the measurement was very time consuming, and thus cost-intensive, due to the difficult adjustment of the measured parameters and within allowable deviation under steady state conditions. Also, it is uncertain whether the dynamic compensation test method makes it possible to fully avoid circumvention.

It is mentioned in the BAM report that only one air source heat pump and one ground source heat pump have been tested so far. As this is a limited number of tests, we support the conclusion that further evaluation of the method is required. The report also did not investigate the accuracy of the test, only reproducibility was evaluated. At present, members of our associations find the dynamic compensation test method not mature enough to be considered as a suitable alternative to the existing method according to EN 14825. Accordingly, the dynamic compensation test method should not be included as part of the current revision of Ecodesign Lot 1.

Last but not least, it is important to note that the dynamic compensation test method was presented by the BAM at the CEN TC113 WG7 meeting in Stockholm on April 23rd-24th. The method was then discussed with the participants. The discussion revealed the importance and necessity to continue the work on the method, but further development – including round robin tests and drafting a standard

for the method - is needed to complete BAM' study. Such a process will take some time to be completed, and it is not expected to have an applicable standard short term before 1 or 2 years.

Proposal: In order to avoid the conveyance of uncertainty among the industry, we recommend maintaining the current test method to ensure reproducible and accurate test results. In this perspective, our associations support the Review Study Task 7 recommendation to dedicate more time to the evaluation of the readiness and effectiveness of the dynamic compensation test method. In particular, we foresee the need for more investigation.

We would support that a robust workplan is set up to investigate the feasibility of using dynamic testing and evaluate whether it can be applied or no. All European laboratories should be involved in developing this method. In case the conclusion is that it can be applied, then this method can be included in the next revision. CEN TC113 WG7 could be used as the platform to do this.

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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 market place 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. www.ehpa.org

About EPEE: The European Partnership for Energy and the Environment (EPEE) represents the refrigeration, air-conditioning and heat pump industry in Europe. Founded in the year 2000, EPEE's membership is composed of 40 member companies, national and international associations. EPEE member companies realize a turnover of over 30 billion Euros, employ more than 200,000 people in Europe and also create indirect employment through a vast network of small and medium-sized enterprises such as contractors who install, service and maintain equipment. EPEE member companies have manufacturing sites and research and development facilities across the EU, which innovate for the global market. As an expert association, EPEE is supporting safe, environmentally and economically viable technologies with the objective of promoting a better understanding of the sector in the EU and contributing to the development of effective European policies. Please see our website (www.epeeglobal.org) for further information.

About Eurovent: Eurovent is Europe's Industry Association for Indoor Climate (HVAC), Process Cooling, and Food Cold Chain Technologies. Its members from throughout Europe, the Middle East and Africa represent more than 1.000 companies, the majority small and medium-sized manufacturers. Based on objective and verifiable data, these account for a combined annual turnover of more than 30bn Euros, employing around 150.000 people within the association's geographic area. This makes Eurovent one of the largest cross-regional industry committees of its kind. The organisation's activities are based on highly valued democratic decision-making principles, ensuring a level-playing field for the entire industry independent from organisation sizes or membership fees. www.eurovent.eu