Daikin comments on
Review study of ecodesign and energy labelling for space heaters and combination heaters
Technical WG 2 – testing

Daikin has read the WG2 discussion document and was present during the first meeting on the 2nd of April 2020. Additionally to the comments provided during the meeting, we would like to share our position in writing. Please find our comments on the several topics discussed in this working group below.

Harmonized test points heat pumps

Assessing the energy performance of heat pumps

The proposal to increase the current test temperature for HP from 55°C to 65°C is not acceptable. The EPB Directive sets clear requirements towards buildings, resulting in overall improved insulation levels and therefore a lower temperature is needed to achieve the needed comfort level in buildings. Additionally, when heat pumps are installed in existing buildings, the building is usually adapted to make sure the heat pump can be fitted with the lowest temperature possible. Due to that, 65°C is not a standard temperature that heat pumps are designed for. Increasing the test temperature would give the wrong signal to installers and customers that there is no need to adapt the house or building to allow for lower temperatures, which would go against the goals of the EPBD.

Furthermore, the proposal is based on research done by Fraunhofer Institut, whose results are supporting the current system temperatures of 55°C. There is no indication in the study from Fraunhofer that the test temperature should be increased.

Based on the above reasoning, there is no ground to accept an increase of test temperatures as proposed.

Load based testing (compensation method)

Daikin is carefully assessing the newly proposed method and actively following the recently started round robin test by BAM and is supporting that a workplan is established to investigate whether yes or no this test method is appropriate.

However, based on the information currently available and the fact that the RRT has only just started and no results are available, we find the proposed test method not mature enough to
be introduced in an Ecodesign Regulation or even transitional method at this stage. We expect the final results from the RRT by January/February 2021. At that time adjustments will be required on the test method, making it most likely necessary to perform another round of tests.

Before that, no premature conclusions should be taken.

We recommend also that this method is considered properly by the appropriate technical committees to introduce this in the relevant standards. The timing relevant to the standardisation processes should be considered accordingly.

Additionally, today the results of the test based on 4 test points are used for energy performance of buildings calculations. It is unclear how to perform this with the compensation method.

For the above reasons, the introduction of load-based testing is a topic for the next review and we support that a workplan is established to investigate whether yes or no this test method is appropriate.

Daikin understands that at present, there are barriers for market surveillance authorities to test our products as the frequency settings of the compressor are not readily available. This could be solved by providing on a non-public platform, the information for test set-up. This would already reduce the burden for MSAs to go to manufacturers and ask for these settings.

Display $\eta_s$ on label

Daikin is in favour of adding the etas value on the label for all products. This would allow better comparability between products within the same label class as well as between product groups in scope of different Regulations. With the introduction of the PEF of 2.1., which is fully supported by Daikin, most heat pumps will be in A++ and A++. This could be solved by displaying the etas value on the label.

Using the SCOP value is to our understanding less suitable. Other Regulations are also applying the etas value as the efficiency indicator and a percentage will be more understandable for end users than the SCOP value. Even in case of doubt, this can be clarified by the installer.

We also find that the etas value does not lead to misleading information towards the cost of the system. Consumers are in general guided by installers, who clearly inform on potential cost impact of the system. It is up to the consumer to then balance between cost and efficiency, and this is different country by country based on energy pricing.
Verification tolerances on heat pumps

The current tolerances for heat pumps should remain as they are, we see no need to change them. However, at times the deviations are quite large and it should be checked how this can be improved. It could mean that the current test method is not yet fully understood.

Third party conformity assessment

Daikin is in favour of introducing third party conformity assessment (TPCA) in Lot 1 for all products, under the conditions that a free choice of modules is allowed, a reasonable transition period is implemented and a delay in going to market is avoided.

By carefully assessing the potential impact, we find that the introduction of TPCA will be beneficial for our industry. It will reduce free riders in the market and enhance trust in data declarations and as such, can be a good support for market surveillance authorities. More robust and comparable data will be better accepted on other platforms, such as the EPBD. Furthermore, introducing TPCA will also create a level playing field for all products in scope of the Regulation.

According to Art. 8(2) of the Ecodesign framework Directive (2009/125/EC), the conformity assessment procedures shall be specified by the implementation measures and where duly justified and proportionate to the risk, the conformity assessment procedure shall be specified among relevant modules as described in Decision No. 768/2008/EC.

Daikin has experience with the implementation of third party conformity assessment and the application of different modules in measures such as the Pressure Equipment Directive (PED) and the Gas Appliances Directive (GAD). In those cases, the introduction of TPCA was justified and proportionate to the risk due to safety concerns. Arguably, introducing this in an Ecodesign Regulation is not a matter of safety per se but there are unquestionably some risks that can be identified and which could be mitigated by introducing third party conformity assessment:

- The Energy Performance of Buildings Directive aims to improve energy performance of buildings and includes specific measures to support member states on this matter. The EPB Directive asks for Ecodesign data to be used for the calculation of the energy performance. At the moment, this data is based on self-assessment of the manufacturer, leading to a hesitation to use or rely on this data by Member States, enforcing certification of the data. Introducing TPCA will improve the credibility of data and could ensure a faster uptake of the EPBD measures.

- The current conformity assessment requested in Ecodesign Lot 1 involves self-assessment by the manufacturer, a declaration of conformity and, once the product is placed on the market, market surveillance. Due to this, a catch-all approach is difficult for this type of complex products. Once a product is assessed by market surveillance
and found to be non-compliant, it is taken off the market. This is however only one model that will be affected. When TPCA is applied, the checks are not only done before placing the product on the market, it also ensures a strong support for market surveillance after going to market and allows for a preventive approach to ensure that non-compliant products are not marketed in the first place. In addition, all models will have to be considered by the notified body. Furthermore, market surveillance authorities are able to assess conformity of the Notified Bodies and can, if they are deemed incompetent, ensure that they are removed from the market. Overall, the safety net to catch non-compliance becomes bigger when TPCA is applied. In other directives, such as PED, this has already been proven to be effective.

- Self-assessment is relying on strong market surveillance actions. However, the current market for Lot 1 products often concerns smaller quantities. This implies that some companies could easily import non-compliant units on the EU market and simply change company name to keep on selling. This leads to unfair situations on the market where low quality products can enter the market without penalty. In such cases, it is difficult for market surveillance authorities and customs to catch it in time. TPCA could reduce this risk and ensure that the energy savings that are projected will be realised.

- Resource efficiency requirements, included in all new/revised Ecodesign Regulations, can often not be checked by market surveillance. The availability of spare parts is asked for seven years after placing the last unit on the market. How will this be checked by market surveillance? And if found to be non-compliant, what will be the penalty? If TPCA is introduced, the third party could verify that the manufacturer has a system in place to guarantee the 7 year availability.

**Scope extension to 1 MW**

During the WG2 meeting, it was explained that the scope extension to 1MW would be applied to all products within scope of Lot 1. As such, this will have an immediate impact on products currently included in Regulation (EU) 2016/2281 on air heating products, cooling products, high temperature process chillers and fan coil units, which includes large heat pumps. These reversible heat pumps have no heating requirements but cooling requirements in Lot 21. Including them in Lot 1 for heating could lead to double Regulation and ultimately a higher cost for the customer.

Daikin is fully understanding of the proposal to include large oil boilers with a long lifetime in the Regulation to increase energy savings. However, if this scope extension is applied to all products, double Regulation must be avoided. At the moment, these larger heat pumps are optimised as chillers in Lot 21 and so far, no assessment was done to understand the impact on efficiency when including these products in Lot 1. Setting minimum efficiency requirements requires such an assessment.
In general, in the regulations where reversibility is considered, the balance between cooling and heating has been duly considered, as this has influence on the design of the system. Such balancing should be studied before defining requirements. As such, we are against an extension of the scope to 1MW for heat pumps.

This is in line with Daikin’s position on the proposal in WG4 to add all water heating efficiency requirements to one Regulation (Lot 2), where we have stated not to be in favour of such a proposal. It would lead to compliance with two Regulations, two labels and might create confusion for customers.

We kindly ask the consultants and the Commission to reconsider this proposal.