

European Platform for Multifunctional Units

15 June 2020

Proposal for Information Requirements for Multifunctional Residential Ventilation Units

It is the position of the European Platform for Multifunctional Units, that the market share of such units in Europe will continue to grow. As such the ongoing review of the Ecodesign and Energy Labelling regulations for ventilation units (Regulations (EU) 1254/2014 and 1253/2014) provides a welcome opportunity to further develop and define the regulatory approach to multifunctional units. Please see the Platform's previous submissions to the review process¹.

In this regard the Platform propose the following information requirements for multifunctional units for inclusion in the revision of the regulation. These proposed information requirements reflect the current status of EN 16573 as a first step. In the long-term, the revision of this standard defining seasonal efficiency indicators should be undertaken to allow for easier comparison with products partially providing functions enclosed in MFUs. The Platform intends to work on a problem statement towards the revision of EN 16573 with the aim that it is available for the next review/revision of LOT 6.

MFU Information Requirements:

1. From 1 January 20xx, the following product information shall be provided for residential multifunctional units:

- a) supplier's name or trade mark;
- b) supplier's model identifier i.e. the code, usually alphanumeric, used to distinguish a specific residential ventilation unit model from other models with the same trade mark or supplier's name;
- c) declared typology in accordance with Article x (example EN 16573 table 2);
- d) type of the included heat pump, heat source and heat sink ...
- e) type of installed ventilation fan drive (multi-speed drive or variable speed drive);
- f) type of heat recovery system (recuperative, regenerative), where relevant
- g) thermal efficiency of heat recovery with heat pump off at reference conditions (in % or 'not applicable' if the product has no heat recovery system);
- h) the following performance data shall be provided depending on the functions of the unit
 - a. domestic hot water production
 - i. The declared load profile, expressed by the appropriate letter
 - ii. Domestic hot water performance COPWH or COPD (if the unit provides DHW simultaneously with hydronic space heating and/or air heating)
 - iii. Maximum volume of usable hot water, V_{max}

¹ Platform on MFUs – Ventilation Units_MFU_Report – 02_2020.

iv. Air volume flows (ventilation, recirculation, etc.)

b. hydronic space heating and/or cooling

Space heating and/or cooling performance shall be given for both low and medium temperatures, unless the heat pump is a low temperature heat pump. For multifunctional units providing both space heating and domestic hot water, declaration of low temperature performance is optional.

i. Hydronic heating performance COP_{HH} under test point n°1

ii. Hydronic cooling performance EER_{HC} under test point n°1

iii. Hydronic heating capacity P_{HH} under test point n°1

iv. Hydronic cooling capacity P_{HC} under test point n°1

v. Air volume flows (ventilation, recirculation, etc.)

c. air heating and/or cooling

i. Air heating performance COP_{AH} under test point n°1

ii. Air cooling performance EER_{AC} under test point n°1

iii. air heating capacity P_{AH} under test point n°1

iv. air heating capacity P_{AC} under test point n°1

v. Air volume flows (ventilation, recirculation, etc.)

d. both hydronic and air heating and/or cooling

Space heating and/or cooling performance shall be given for both low and medium temperatures, unless the heat pump is a low temperature heat pump. For multifunctional units providing both space heating and domestic hot water, declaration of low temperature performance is optional.

i. Heating performance COP_H under test point n°1

ii. Cooling performance EER_H under test point n°1

iii. Air and hydronic heating capacity $P_{AH} P_{HH}$ under test point n°1

iv. Air and hydronic cooling capacity $P_{AC} P_{HC}$ under test point n°1

v. Air volume flows (ventilation, recirculation, etc.)

i) maximum air volume flow rate in m³/h of the ventilation system;

j) electric power input of the fan drive, including any motor control equipment, at maximum air volume flow rate (W);

k) sound power level (LWA), for ventilation function only at reference air volume flow;

l) sound power level (LWA), while heat pump is operating at reference flow.

When the unit can provide space cooling (hydronic and/or air cooling) then, the sound power level shall be measured while the unit is operating in cooling mode. Note that the unit may also provide space heating and/or domestic hot water in addition to cooling.

When the unit can provide space heating (hydronic and/or air heating), then, the sound power level shall be measured while the unit is operating in heating mode. Note that the unit may also provide domestic hot water in addition to space heating.

When the unit can provide domestic hot water only, then, the sound power level shall be measured while the unit is operating in domestic hot water heating mode.

- m) reference outdoor air volume flow qV , ref, fresh in m^3/s ;
 - n) reference pressure difference in Pa;
 - o) reference recirculation air and outdoor exhaust air volume when applicable in m^3/s
 - p) SPI with heat pump off at reference conditions in $W/(m^3/h)$;
 - q) declared maximum internal and external leakage rates (%) or carry over (for regenerative heat exchangers only), and external leakage rates (%);
 - r) position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit;
 - s) internet address for disassembly instructions as referred to in point 3;
 - t) any specific precautions that shall be taken when the multifunctional unit is assembled, installed or maintained;
2. ... add aspects in analogy with ventilation units, material, repairs, etc. ...
