

# European Platform for Multifunctional Units



## Ventilation Units – Ecodesign and Energy Labelling

Commission Regulation (EU) No. 1253/2014 [Ecodesign]

&

Commission Delegated Regulation No. (EU) No. 1254/2014 (Energy Label)

Reply to 1st stakeholder meeting of 29/05/2019

### Scope:

**Including multifunctional bidirectional ventilation units**

1. Legal (Policy & Standard)
2. Market & Use
3. Definition/Technical
4. Options

## 1. Legal (Policy & Standard)

CEN EN 16573:2016 “Performance testing of components for residential buildings – Multifunctional balanced ventilation units for single family dwellings, including heat pumps” provides a general European standard covering multifunctional units.

However, the concept of “multifunctional bidirectional ventilation units” continues to evolve and an exact definition of such products has yet to finally be agreed. It is the position of the European Platform for Multifunctional Units belief, 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 provides a welcome opportunity to further develop and define the regulatory approach to multifunctional units.

In this regard we have reservations on the proposal outlined in the Task 7 Final Report<sup>1</sup> on the revision of Commission Regulation (EU) 206/2012 (Small air conditioners and comfort fans) to extend the scope to include ventilation exhaust air-to-air heat pumps and air conditioners with rated capacity ≤ 12 kW.

As the functions of ventilation, heating and hot water production may be combined in one multifunctional product (see EN 16573), overlap arises between the scopes of Commission Regulations (EU) 813/2013 and (EU) 814/2013 and (EU) 1253/2014. Whilst we recognise the concept of multifunctional units as valid, we also note that the definition of the possible technical parameters and scope of multifunctional units is, as of yet, to be clarified.

Multifunctional units including only one exhaust air fan, namely exhaust air heat pumps, are already covered by regulations (EU) 813/2013 and 814/2013. It is our position that exhaust air heat pumps remain adequately provided for within the scope of these regulations. However, multifunctional units may include only one exhaust air fan or may include both exhaust air and supply air fans – meaning the supplementary use of renewable energy. In addition, multifunctional units include one or several additive functions, such as heating and/or cooling and/or domestic hot water production, etc.

Multifunctional bidirectional ventilation units may include any combination of additional functions and as such there are multiple types and architectures of multifunctional bidirectional ventilation units. Across these products, ventilation is the only common function. For that reason, in order to gather all the multifunctional bidirectional units in a single regulation to make comparison between them possible, we propose to include these units in (EU) 1253/2014, and not in (EU) 206/2012.

Including them in the scope of (EU) 1253/2014 will allow them to be considered independently on their capacity range, whereas currently under (EU) 206/2012 they are outside the scope as it is limited to units under 12kW.

Under the Energy related Products (ErP) frameworks products are regulated according to their function. Typically, multifunctional units are however not optimised to perform a function in isolation, but to provide a combination designed to achieve the highest overall performance and benefit to the consumer.

Including multifunctional bidirectional ventilation units in the revision of regulation (EU) 1253/2014 will allow assessment of the energy efficiency of the ventilation function. However, as these units offer functions other than ventilation alone, all additional functions of a unit which have an energy and environmental impact shall be considered in the revised regulation. This approach would ensure that the energy efficiency and sound power levels of heating and/or cooling and/or domestic hot water

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<sup>1</sup> Review of Regulation 206/2012 and 626/2011 on air conditioners and comfort fans. Task 7 report. Final version

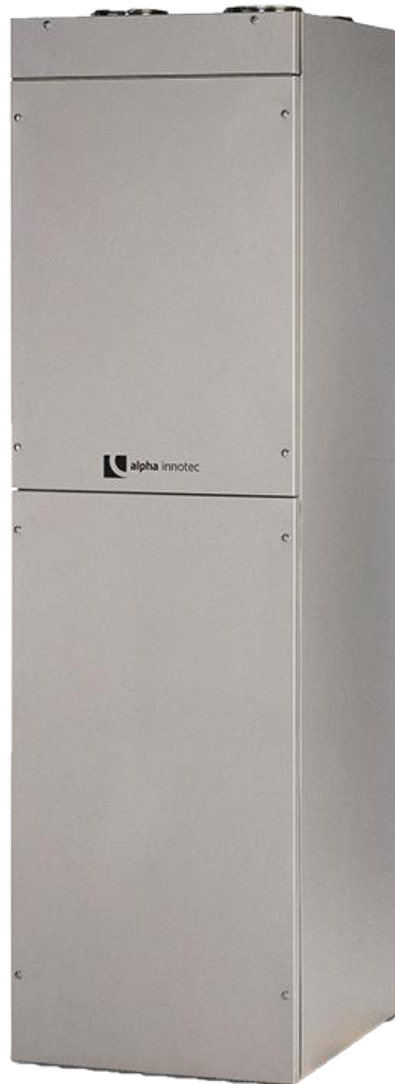
(DHW) functions will also be addressed. This will also allow a fair comparison of these units with products already covered by existing regulations such as regulations (EU) 206/2012, (EU) 813/2013 and (EU) 814/2013 which address the impact of a specific function insulation, i.e. heating, cooling, DHW.

## 2. Market & Use

Currently, the market for multifunctional bidirectional ventilation units including heat pumps is in its infancy. Indeed, we estimate that no more than 15,000 units per year – related to the concept of “multifunctional bidirectional ventilation units” - are placed on the market for residential applications. The units for residential applications that are available on the market are optimised for very low energy buildings providing predominately ventilation and, depending on the function, additionally space heating/cooling and hot water capabilities. We estimate similar numbers for non-residential applications. Nevertheless, we welcome the European Commission’s efforts to integrate multifunctional units within the ErP framework with a view to shaping the development of the marketplace.

### Product Examples:

*Alpha-  
innotec,  
Germany*



<https://www.alpha-innotec.de/en/end-user/products/ventilation-technology/product-catalog/details/Ilb-317b.html>

## ENSURING A HEALTHY INDOOR CLIMATE AND PLENTY OF SANITARY HOT WATER

A VP 18 system consists of a number of effective components that are all of great importance to your well-being. All day long, they work to optimise the indoor comfort in the best and least expensive way - for you and your family, while protecting the environment. Come inside and see how the compact VP 18 system and its components can make a difference, providing both ventilation and sanitary hot water.

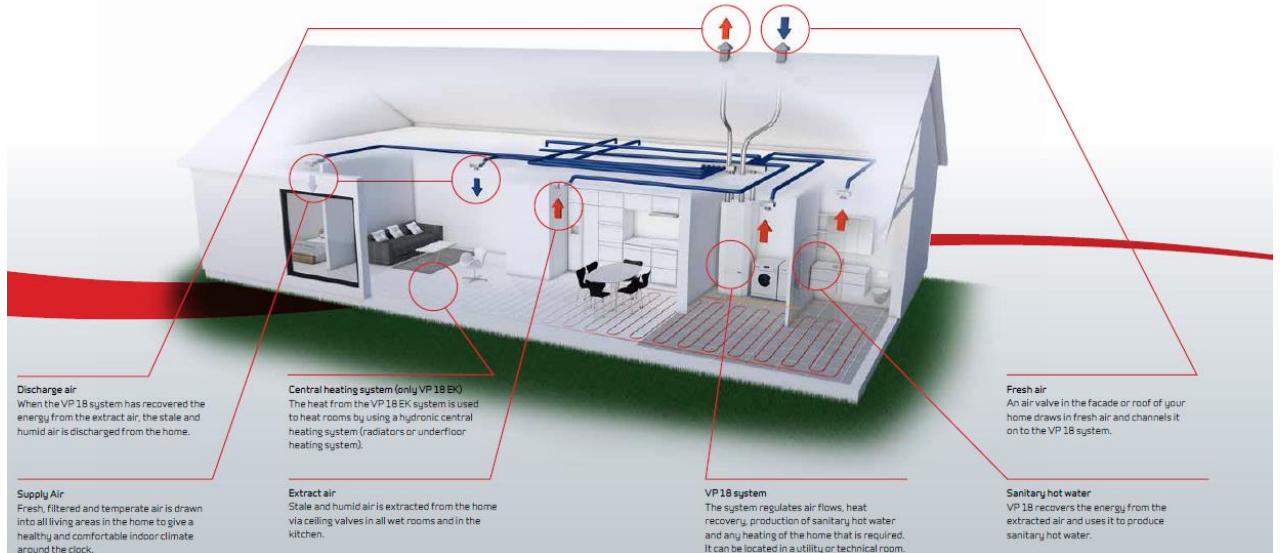
## ACTIVE HEAT RECOVERY IN PRACTICE

In practice, the VP 18 system's active heat recovery function uses the energy in the warm, extracted air being recovered and transferred to the fresh air being drawn into the home.

The core in any ventilation system with active heat recovery is a heat pump which basically consists of an evaporator and a condenser. The energy in the warm air being extracted from the home is absorbed by the evaporator before it is extracted. The condenser then releases the energy, from the evaporator into the cold fresh air before it is drawn into the home so heat loss is avoided.

Compared to natural ventilation, the active heat recovery reduces the amount of energy required to heat up the home as the fresh air being drawn in is preheated in relation to the outdoor temperature.

In the summer, the process is reversed from heating to cooling so that the system cools the fresh summer air being drawn into your home. The VP 18 system is able to cool air relative to the outdoor temperature and should not be confused with air conditioning.



## SOLUTIONS TO MEET EVERY REQUIREMENT

The flexible VP 18 range features four different systems that can meet any need for ventilation and sanitary hot water - from basic to more advanced systems.

### VP 18

#### Plenty of heating in a compact solution

The VP 18 system is designed for installation in utility or technical rooms and is suitable for homes with an air exchange requirement of up to 325 m<sup>3</sup>/h. The system combines ventilation with active heat recovery, production of sanitary hot water and comfort heating, in one compact, space-saving indoor climate solution.

VP 18 is the obvious choice for homes with limited space, as it does not require more space than an ordinary wall cupboard. This should be compared to solutions with separate ventilation, heating and hot water installations, which can fill up a utility or technical room.

### VP 18 Cooling/Solar

#### Cooling function and extra sanitary hot water

VP 18 is also available in a version with a cooling and solar function, if you need cooled supply air and extra sanitary hot water, e.g. for a spa tub. With the help of an extra heating coil, the system can be connected to a solar panel, oil, gas or other fuel source, to increase the production of sanitary hot water.



### VP 18 EK

#### Upgrade your heating

If you choose a VP 18 EK system you will get all the functions and options from the VP 18 system, but also built-in cooling and heating function of your home. The system has a built-in 9-kW electric boiler that can be connected to a hydronic central heating system, using electricity to heat the home.

One of the big advantages of the VP 18 EK is that it does not require pipes buried in the ground, or the installation of an air source heat pump, as in the case of traditional heat-pump based heating solutions. This makes installation easier and less expensive, so that the investment is quickly recovered via the reduced heating expenses.

### VP 18 EK Cooling/Solar

#### Total solution

VP 18 EK Cooling/Solar provides a total solution. You get all the functions of the VP 18 EK, and the system also includes an extra heating coil that can be connected to a solar panel, oil, gas or other fuel source. This can increase the production of sanitary hot water, covering the consumption of a spa tub, for example.

# LWZ 504

## CONVENIENCE TIMES FOUR – PLUS ONE-OFF EFFICIENCY

No other model can beat the LWZ 504 when it comes to efficiently and elegantly combining the following four functions: ventilation, room heating, DHW heating and cooling. A unique achievement, which has only been made possible by the intelligent use of state of the art inverter technology.

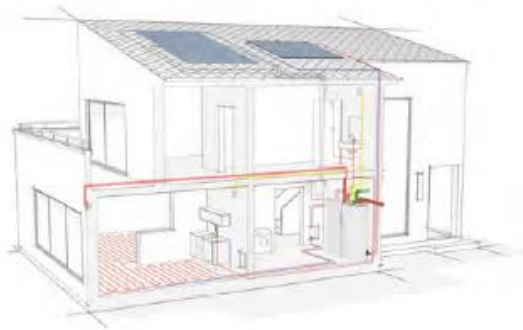


### Impressive technology with sound-optimised casing

Covering a floor area of just over one square metre, the LWZ 504 not only meets many of the requirements for real convenience, but is also remarkably quiet. The inverter technology and, most notably, the sophisticated sound insulation of the appliance take care of this.

### Technology that goes further

The LWZ 504 can be combined with solar thermal and photovoltaic systems. This ensures more efficient operation and, additionally, provides for almost complete independence from rising energy prices thanks to the power generated through the photovoltaic system.





<https://www.stiebel-eltron.com/en/home/products-solutions/renewables/ventilation.html>

Vaillant,  
Germany

# The all-in-one solution for your success



**The heating technology of the future**  
The number of heat pumps sold worldwide grew by 32% between 2016 and 2017 to a total of 4,500,000. This makes heat pump technology one of the top growth drivers in the industry. At our research and development centre in Remscheid, Germany, we develop innovative ideas, products and system solutions. Our heat pumps are thoroughly assessed in our own testing centre – even in extreme conditions in our climate chambers. Final assembly takes place primarily in Germany and Europe, so that we can guarantee you and your customers the expected Vaillant quality.

**Everything taken care of**  
Our new air-to-water heat pumps, recoCOMPACT exclusive and versoTHERM plus, with with different ventilation options have been designed for indoor installation and are ideal for single-family houses. No need for complex drilling or additional piping in the garden. The compact construction also frees up valuable living space for your customers. And the indoor installation makes maintenance convenient all year round – even in the winter.

**Convenient installation comfort**  
As a heating engineer, you will find our new heat pumps for indoor installation easy to install, whether you are dealing with an all-in-one solution or a modular concept. All hydraulic and electrical components are already pre-assembled. Depending on the amount of space available, you can position the heat pump in a corner or by a wall – at a distance of only 10 cm. Another advantage is that the connections and air ducts required for these heat pumps are identical.

**Efficient indoors, quiet outdoors**  
The recoCOMPACT exclusive and versoTHERM plus are based on the latest technology concepts. They are especially economical because the modulating compressor with inverter technology continuously adjusts the output based on the current heating load in the building.

A variety of innovative features make the unit quiet – we call that Sound Safe System. Moreover, the acoustic pressure level is reduced to 35 dB(A) in night mode at a distance of 3 m from the wall outlets. The neighbours will be pleased. In addition, there is a factory-insulated air duct system as an accessory. With optional insulation mats, the sound can be lowered by a further 3 dB(A).



**Cooling included**  
Both models come with an active cooling function as standard. When installed as part of a suitable system the heat pumps automatically provide cooling in the summer via the underfloor heating system. Also requires reversible actuators and a suitable room thermostat.



versoTHERM plus with versoVARI and hot water cylinder

**Maximum support for maximum output**  
Both heat pumps achieve a COP of up to 4.2 (A2W35) and consume less electricity than comparable products. The high seasonal performance factor (SCOP) means your customers benefit not only from efficient heating technology, but also from a wide range of government subsidies. Talk to us and we'll be happy to help.



**Benefits of recoCOMPACT exclusive and versoTHERM plus**

- Faster installation thanks to pre-assembled components
- Quiet operation with Sound Safe System
- Energy-efficient thanks to modulating compressor
- Low space needed due to front maintenance
- Familiar operation with the MULTIMATIC system controller
- Made in Germany

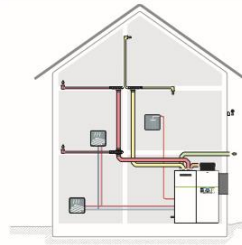


## All in one: recoCOMPACT exclusive

**VOUCHER**  
Get a free internet module VR 920 exclusive



recoCOMPACT exclusive



Ventilation system with recoCOMPACT exclusive

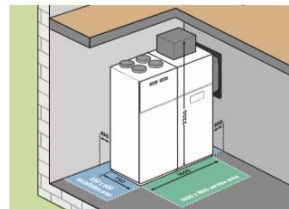
**The all-in-one solution**  
With the recoCOMPACT exclusive, your customers get everything in one appliance: heating, cooling, ventilation and a 225-litre hot water tank. The compact system consists of a heat pump unit and a tank and ventilation unit that can be split for easier transport in the house due to the Split Mounting Concept. The entire system can now be installed much faster. All the main components are easily accessible from the front, which is convenient for maintenance. The VR 920 internet module that goes with the system lets your customers control their heating via a free app. It also lets you diagnose problems and make improvements remotely via our profIDIALOG software.

**All inclusive – ideal for new builds**  
The combination of controlled ventilation and heat pump creates an all-round system that is particularly energy-efficient. The ventilation unit provides fresh air and keeps the indoor climate healthy, while recovering a large proportion of the heat from the exhaust air. The residual heat passes through the heat pump, so almost all of it is reused. This produces another advantage: there is no need for an additional wall duct for exhausted air.

**GREEN IQ**  
The recoCOMPACT exclusive has been awarded with the Green IQ label that stands for premium efficiency, sustainability and connectivity.

A high-quality central ventilation system is already integrated into our recoCOMPACT exclusive: the recoVAIR 260 (or 360).

- Almost 100% heat recovery through the interaction of the ventilation and heat pump system
- Complete air duct system from one supplier
- High air quality thanks to pollen and dust filter
- Optional enthalpy heat exchanger for high air quality, even at maximum heat setting
- Demand-controlled operation via integrated humidity sensor



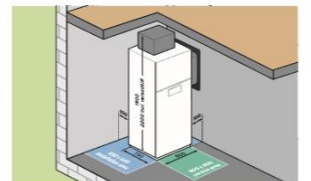
No min. distance required for room side facing after installation

## Versatile: versoTHERM plus



versoTHERM plus

**Solution for new build and modernization**  
The versatile versoTHERM plus concept gives you a number of planning and installation options. Depending on customer requirements, and on-site conditions, you can combine it with a suitable domestic hot water cylinder. For ventilation, your customers can choose between an exhaust air ventilation system and a central or de-centralised ventilation system.



No min. distance required for room side facing after installation



air ventilation versoVAIR

**Exhaust air ventilation system with versoVAIR**  
Our exhaust air ventilation mod turns the versoTHERM plus into an exhaust air heat pump, a modern and cost-efficient ventilation solution that can also be used for refurbishment.

- Adds exhaust air ventilation for kitchen and bathroom, and air inlet elements in the outer walls of the living area
- No waste of heat of exhaust air due to heat recovery from the versoTHERM plus
- Saves installation space: versoVAIR is placed on top of the heat pump



central ventilation system recoVAIR VAR 260/360

**Central ventilation system for new buildings**  
The ventilation system recoVAIR VAR 260/360 offers all the advantages of a central ventilation system for healthy air, with a complete duct system from a single source. Furthermore, almost complete heat recovery is achieved by the interaction of ventilation and heat pump with accessory exhaust air adapter for 2-stage heat recovery.



De-central ventilation system recoVAIR VAR 60

**De-central ventilation system for modernisation**  
Alternatively, decentralised ventilation – our recoVAIR VAR 60 is ideal for use in existing buildings due to the quick and easy installation. The ventilation units are discreetly installed in the exterior wall. A wireless radio connection between the units can be used as an option.



**Data collection of current market statistics:**

In order to make a robust representation as to the importance of regulating multifunctional units the Platform has conducted a survey aimed at estimating the size of the market for multifunctional products and to forecast its potential growth. As such a questionnaire was developed and distributed to member companies within EVIA, EPEE, EHI, Eurovent and EHPA, and to the national associations in the EU Member States, the European Economic Area (EEA) and Switzerland with a view to collecting the necessary market data. The questionnaire comprised the following questions on the estimated market size for multifunctional units:

**2.1 Estimate of 2018 market size for multifunctional units:**

- a. What is the estimated number of sales at the national level of multifunctional units in the following categories?
  - Residential units < 1,000 m<sup>3</sup>/h
  - Non-residential units > 1,000 m<sup>3</sup>/h
- b. Which suppliers offer multifunctional units at the national level and how many such products do they offer?
  - Residential units < 1,000 m<sup>3</sup>/h
  - Non-residential units > 1,000 m<sup>3</sup>/h

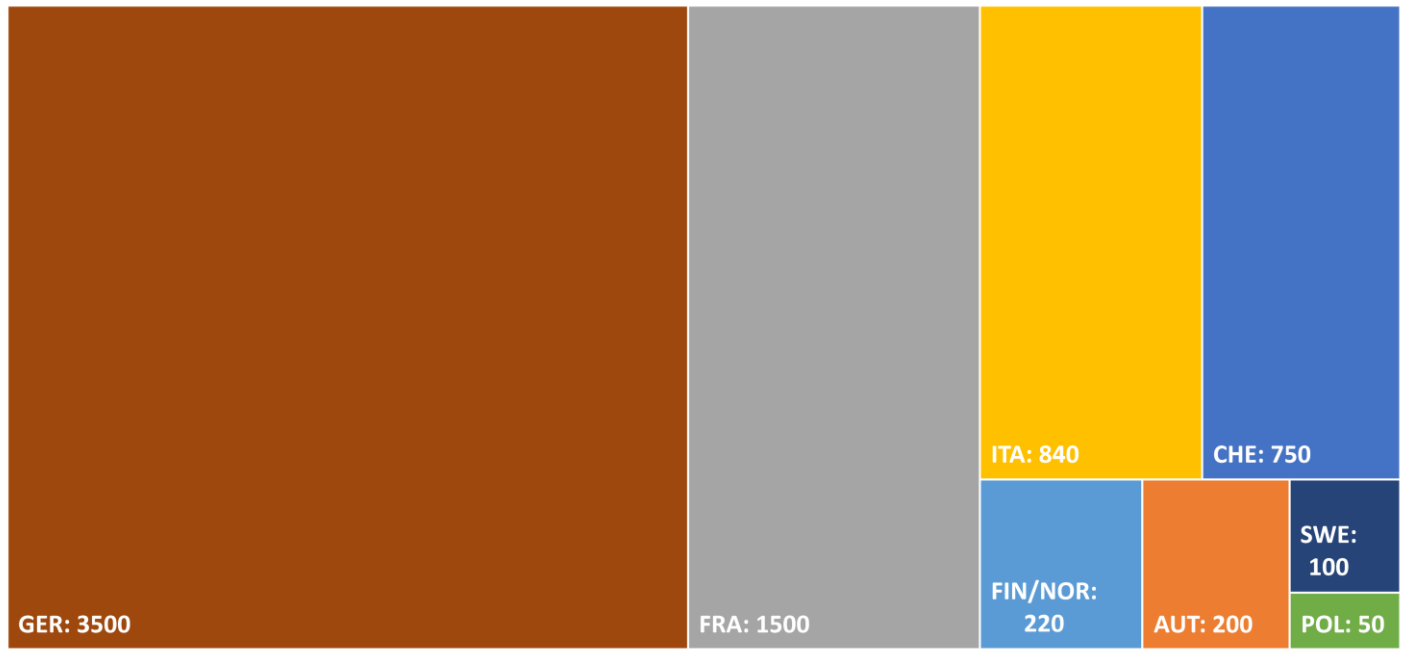
- **Residential units**

For the residential marketplace data has been gathered from Austria, France, Germany, Italy, Poland, Sweden and Switzerland. Combined data was also submitted as an aggregate for Finland and Norway. The data is summarised in Table 2.1 and Figure 2.1 below (where data was submitted as a range the median has been taken as an average).

<b>Country:</b>	<b>No of Units:</b>
Switzerland	750
Austria	200
France	1500
Italy	840
Finland/Norway	220
Poland	50
Sweden	100
Germany	3500

**Table 2.1** – 2018 market for multifunctional units in residential applications (N.B. – Sweden No. of Units based on a 2020 estimate).

MULTIFUNCTIONAL UNITS RESIDENTIAL (< 1000 M3/H)  
MARKET SIZE 2018



**Figure 2.1** – 2018 market for multifunctional units in residential applications.

Data has also been collected on the number of suppliers of residential multifunctional units in some Member States.

In Germany it is estimated that there are eight to ten suppliers of residential multifunctional units, with the following known to place such products on the market:

- alpha innotec
- Nibe
- Nilan
- Novelan
- MAICO/Aerex
- STIEBEL ELTRON
- Systemair
- Tecalor
- Vaillant
- Zimmermann/Proxon

In the Austrian case, Drexel & Weiss, STIEBEL ELTRON and Nilan are market players with more than three models of residential multifunctional unit, whilst J. Pichler markets a single model. For Switzerland it is estimated that there are around five suppliers, while in Italy it is estimated that there are less than ten.

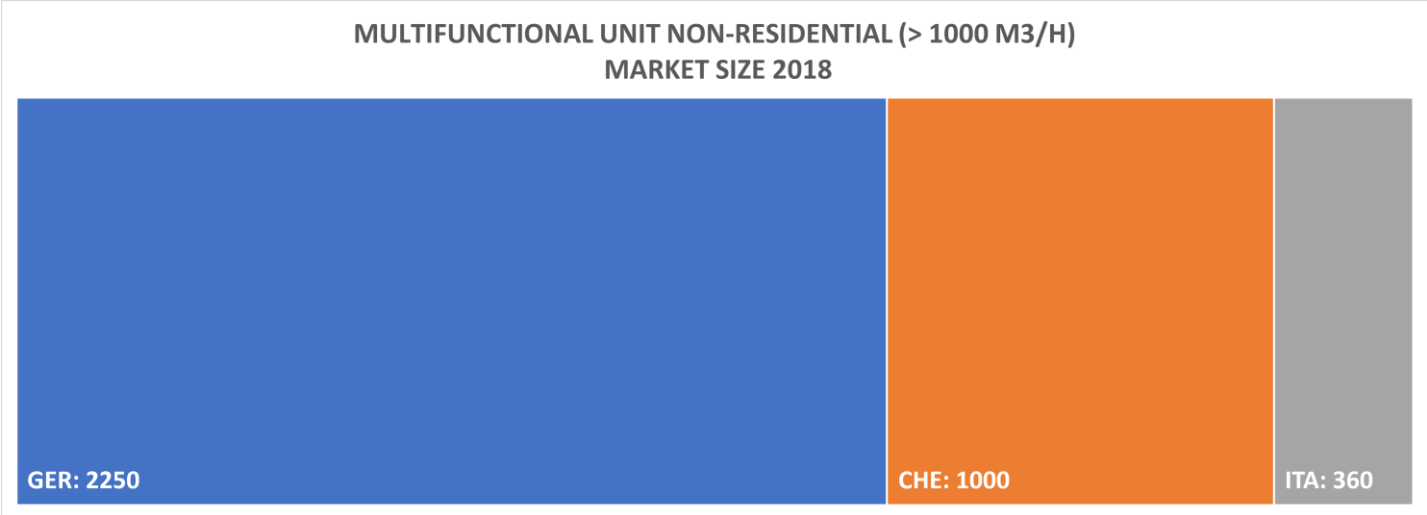
- **Non-residential units**

For the non-residential marketplace data has been gathered from Germany, Italy and Switzerland. The data is summarised in Table 2.2 and Figure 2.2 below (where data was submitted as a range the median has been taken as an average).

Input was received from the Netherlands to the effect that larger units are usually composed of modules with different functions and different capacities. These modules can be certified in isolation. As far as it is known there are no integrated non-residential multifunctional units on the market in the Netherlands.

Country:	No of Units:
Germany	2250
Switzerland	1000
Italy	360

**Table 2.2** – 2018 market for multifunctional units in non-residential applications.



**Figure 2.2** – 2018 market for multifunctional units in non-residential applications.

Data has collected on the number of suppliers of non-residential multifunctional units in Germany and Switzerland. In Germany it is considered that eight to ten suppliers are in operation and in Switzerland that there are around six. For both Germany and Switzerland all non-residential suppliers are understood to provide bespoke product solutions.

**2.2 The market potential of multifunctional products**

The data collection questionnaire also sought input on the estimated market potential for multifunctional units via the following questions:

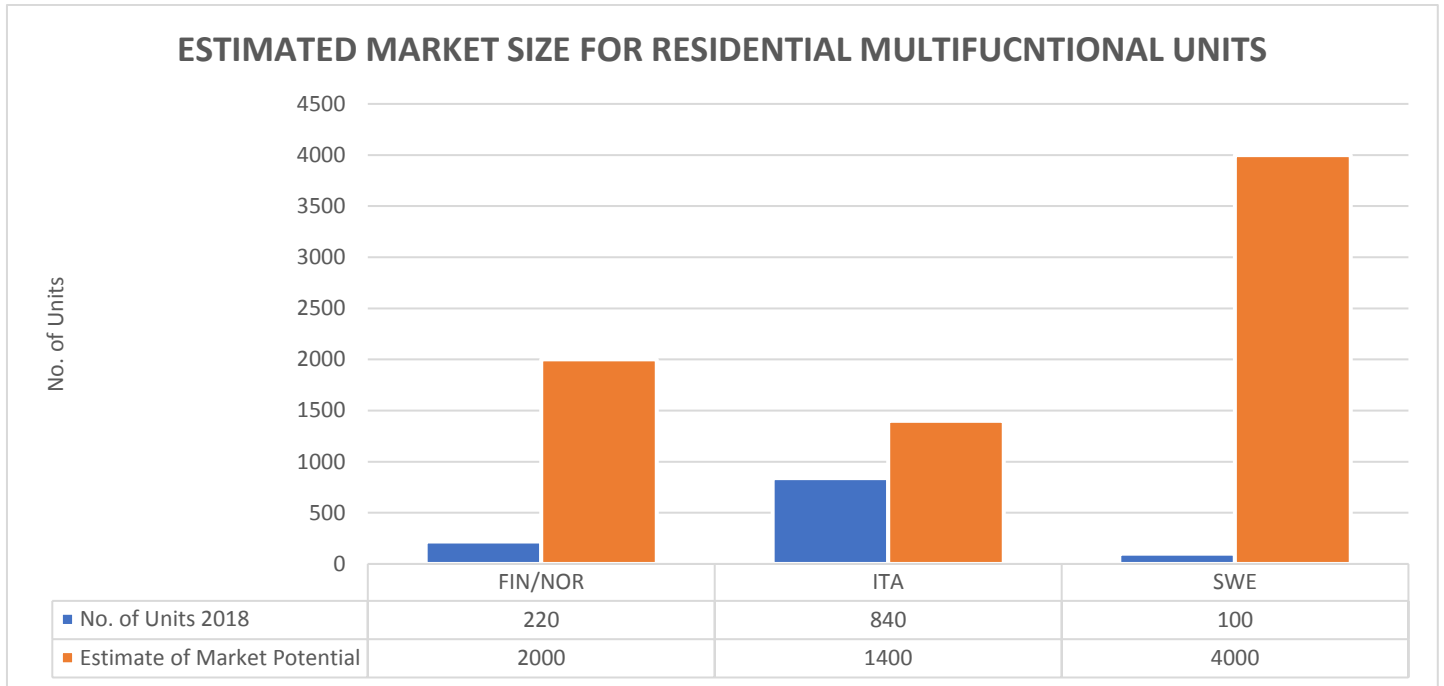
Estimate of the market potential for multifunctional units:

How large is the market for multifunctional units in buildings with the equivalent nearly Zero Energy Building (nZEB) standard in the national building code?

What is the estimated future demand for multifunctional units in nZEB buildings?

Energy Efficiency Directive (EED), Energy Performance in Buildings Directive (EPBD) and the Renewable Energy Directive (RED) foster the nZEB standard?

For a few Member States estimates have been provided as to the potential size of the marketplace for residential multifunctional units. Forecasts have been given individually for the size of the market in Italy and Sweden, and in combination for Finland/Norway, see Figure 2.3.



**Figure 2.3** – Estimated market size for residential multifunctional units for FIN/NOR, ITA and SWE (N.B. – SWE No. of Units 2018 based on a 2020 estimate).

Input was received from **Austria, Germany, Italy** and the **Netherlands** on the market and potential market for multifunctional products in respect to nearly Zero Energy Building (nZEB) standards in national building codes. For Germany it is suggested that most residential multifunctional units appear in publicly funded national building programs aimed at “Energy-efficient Construction” (KfW 55/40). As such it is anticipated that increased adherence to nZEB standards in Germany will increase market uptake of multifunctional products, particularly in prefabricated buildings featuring integrated heat recovery, air-heating and cooling. Proliferation of the nZEB standard and multifunctional units in Germany is expected to be driven by the 2018 revisions of the Energy Efficiency Directive (EED), the Energy Performance in Buildings Directive (EPBD) and the Renewable Energy Directive (RED II).

In the case of the Netherlands it is suggested that there is currently no market for multifunctional units partly as a result of the Dutch national buildings codes’ approach to nZEB standards. This is understood to have arisen as the existing energy performance criteria used in the Netherlands deliver low performance requirements for buildings. Pending the national implementation of the EPBD the spread of nZEB houses in the short-term is expected to remain limited. However, it is expected that in the longer-term national implementation of the EPBD will improve the uptake of the nZEB standard. As such, a market is anticipated for multifunctional units, particularly in the case of prefabricated buildings with heat recovery and heat pumps (mostly air-to-water heat pumps).

For Austria it is estimated that for every 15,000 single family homes approximately 5% comply with the Passive House Standard. Of this 5% around 50% utilise multifunctional units, representing around 375 units per 15,000 homes. It is anticipated that market growth can be expected in the range of 5% to

10% per year. Effective implementation of the revised EPBD is considered as the prerequisite for future market development in Austria.

In Italy the market is expected to grow in the coming years, while remaining relatively limited. Weak forecasts for growth in the market for multifunctional units in Italy is linked to the possibility that the revised EPBD's implementation may not result in specific legal obligations in relation to nZEBs.

### **2.3. The energy efficiency potential of multifunctional products**

Input was also requested via the questionnaire as to the expectations in respect to the energy efficiency of multifunctional units relative to more traditional heating products. The following question was posed in the data collection questionnaire:

- How would you compare the energy efficiency of multifunctional products in comparison to more traditional heating products?

Responses to the question were received from Austria, Germany, Italy and the Netherlands. For Austria multifunctional units are considered as offering energy efficiency improvements over traditional solutions as well as improvements in resource efficiency and from a cost perspective. The input from Germany suggests that the energy efficiency of multifunctional unit is similar to the more traditional pairing of a central ventilation unit with a separate heat pump. From the Italian perspective comparing the relative efficiencies of multifunctional units and traditional products is limiting. Multifunctional units are justified as highly efficient buildings require a low caloric intake, which can be difficult to achieve with traditional heating solutions. As such using the ventilation system to produce the limited thermal delta required, using heat pumps, is the most efficient solution, including from a comfort perspective.

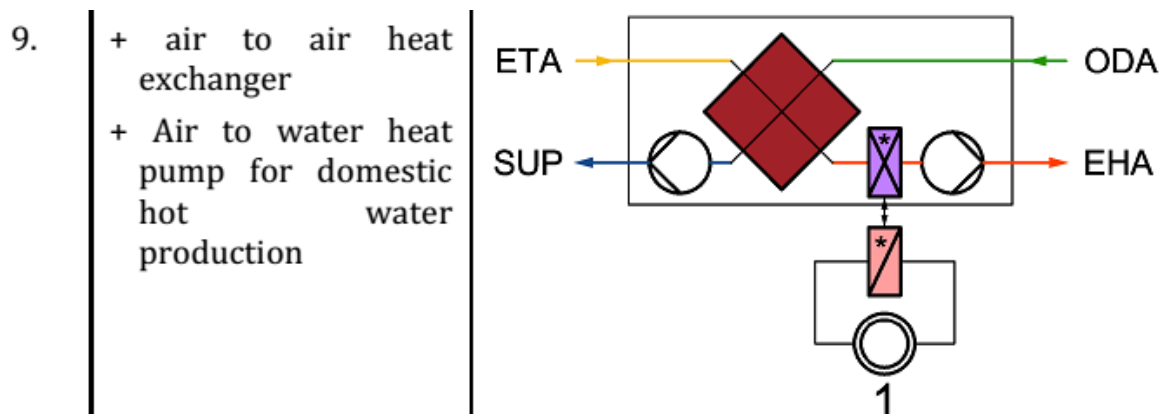
### 3. Definition/Technical

The definition of “multifunctional bidirectional ventilation units” is derived from the EN 16573:2017. EN 16573 was intended to cater specifically for these kinds of units. The rating basis is the reference flow for the ventilating function plus one or more additional functions. It references a wide range of multifunctional units as examples.

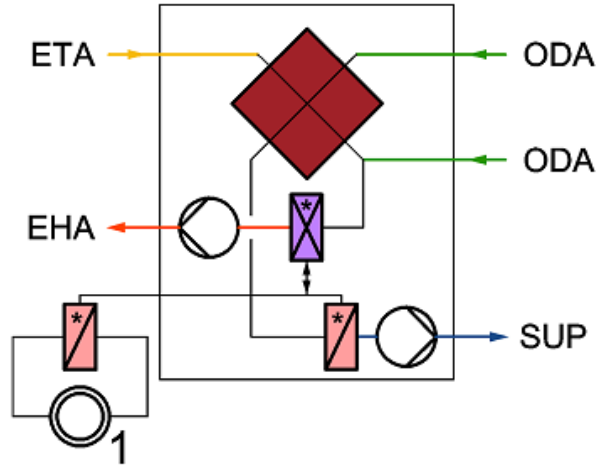
The definitions and procedures of this standard are considered to be a good starting point:

- EN 16573 covers units that contain at least, within one or more casing (please see below for examples):
  - supply and exhaust air fans;
  - air filters;
  - common control system;
  - and one or more of the additional components:
    - Air-to-water heat pump;
    - Air-to-air heat pump;
    - Air-to-air heat exchanger.
- A multifunctional bidirectional ventilation unit provides ventilation for single dwellings as a primary function. The additional functions that may be provided by the units are:
  - Hydronic heating/air heating;
  - Hydronic cooling/air cooling;
  - Hot water production.
- EN 16573 delivers global performance, EER, COP etc. and performance by functions at reference air volume flow considering the test standards EN 13141-7, EN 14511 and EN 16147 in the applicable combination.

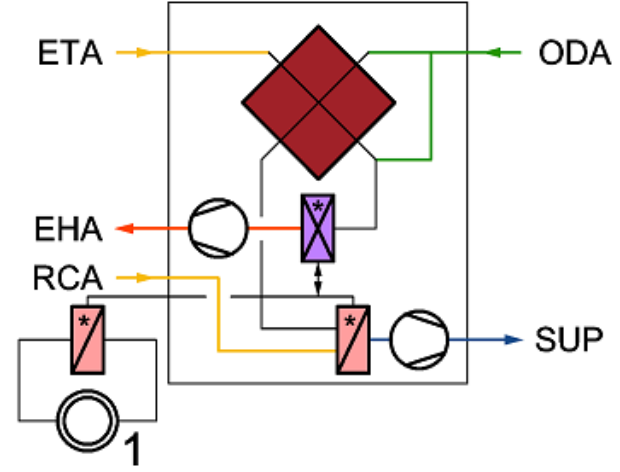
Examples for typical multifunctional bidirectional ventilation units taken from EN 16573:



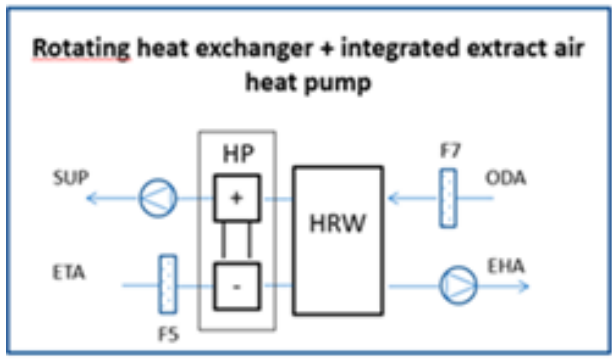
13. + air to air heat exchanger  
 + Air source heat pump for:  
 - supply air heating or cooling  
 - for alternative:  
 - hydronic heating or cooling  
 - domestic hot water production



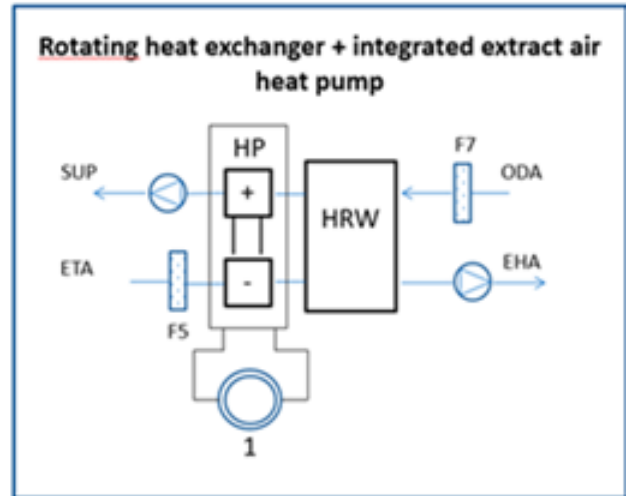
18. + air to air heat exchanger  
 + Air source heat pump for:  
 - supply air heating or cooling and simultaneous or alternative domestic hot water production  
 With recirculation air



Other typical multifunctional bidirectional ventilation units not currently included EN 16573, but can be tested with the same methodology and principles:



- HR rotating heat exchanger
- F7 filter outside air, F5 filter extract air
- HP Integrated extract air heat pump



- HR rotating heat exchanger
- F7 filter outside air, F5 filter extract air
- HP Integrated extract air heat pump
- 1 water heating/DHW

**Testing:**

Input was received to the data collection questionnaire on testing at the national level according to EN 16573 with the intention of specifying possible efficiency targets. Initial testing has been undertaken in Germany and Denmark. In Austria, testing has not been undertaken to the detailed requirements of EN 16573. Currently testing in Austria is undertaken to the requirements under EN 13141-7 and EN 16147 (which are also considered in EN 16573) and also to the passive house criteria.

Certification is [conducted](#) by the Passivhaus-Institute as “Compact heat pump units” in Germany from a national regulatory/testing requirements perspective. For Austria, Italy and the Netherlands there are no separate national provisions for multifunctional units.

The key aspect in testing is the complexity of combining different functions during test procedures and the different part load curves of the functions. Combining all part load aspects of all functions would lead to multiplication of testing parameters which would lead to test procedures of undesirable duration and cost.

EN 16573 combines reference flow with suitable heating and cooling temperatures plus a hot water cycle. The times taken for such a test cycles already extend to a week. Further measurements of part load performances would lead to months of testing and significant additional costs.

**Recommendation:**

The Platform would support an initiative from the European Commission to use EN 16753 as a basis for Ecodesign requirements due to its existing compatibility with LOT 6. Furthermore, the Platform would endorse an initiative to issue a standardisation request (sReq) to revise EN 16573 to include more schematics of multifunctional units within the scope of the standard whilst simultaneously adapting the standard to accommodate the upcoming revision of EU 1253/2014.

This would be particularly relevant for non-residential multifunctional units which due to their wider and more individually specific application range, as well as the slower development of the market for such products in comparison to residential units, are not covered as comprehensively.



## **4. Options**

In consideration of the aspects outlined above, our industry associations, which represent multifunctional units, request that multifunctional bidirectional ventilation units are removed from the scope of EU 206/2013 revision and are instead covered within EN 1253/2014 revision. Multifunctional units including only one exhaust air fan are already in the scope of regulations 813/2016 and 814/2013.

Further, we suggest that EN 16573 provides a ready-made foundation for facilitating the implementation of a change that will assist in delivering a measurable improvement in the energy efficiency delivered to European consumers, whilst providing a level playing field for the uptake and future development of the technology.

The following are initial proposals for consideration as to how to accommodate the regulation of residential multifunctional and non-residential bidirectional multifunctional units. Members of the Platform on Multifunctional Units plan further work in cooperation with the consultants on the approach to be taken for residential units and to develop an approach for non-residential units.

### **4.1. Proposal for information to be provided for Residential multifunctional ventilation units below 12 kW.**

It is proposed to include an information requirement in the product fiche in the annexes of the revised (EU) 1253/2014. Due to the multifunctional use/concepts of the products it seems appropriate to define general requirements and in addition to develop a more specific set of information requirements depending on the functions provided “ventilation”, “heating”, “domestic hot water” and/or “cooling”. These specific information requirements would be developed by combining and adapting the information requirements already set out in the annexes Regulation (EU) 1253/2014, (EU) 811/2013, (EU) 812/2013 and EU 206/201. Subsequently these requirements would be incorporated in a revised EN 16573.

### **4.2. Proposal for a method to evaluate the cumulative efficiency of NRVUs including a heat exchanger and a heat pump.**

Today, the EU regulation 1253/2014 does not cover NRVU’s with heat exchangers (HRS) and heat pumps (HP). This situation creates a loophole for manufacturers, to design units with low energy efficient heat recovery systems, combined with heat pumps. Therefore, we conclude that these units should be included in Regulation (EU) 1253/2014 for NRVUs, together with a new (third) way of evaluating these heat recovery systems.

#### **Objective:**

Based on the determinations for residential ventilation, a regulation for non-residential application shall follow. Closing the loophole of unregulated NRVUs with heat recovery and heat pump, by including those units into EU regulation 1253/2014 and establishing a new way of evaluating those units within 1253/2014.

A proposal for consideration of Non-Residential Ventilation Units fitted with a Heat Pump and HRS or Heat Pump only in the scope of the revised VU Regulation was presented in Eurovent Position Paper PP-2019-12-20.