

Minutes of the 1st Stakeholder meeting

Review of fan regulation

Date: Wednesday 1 October 2014-10-01

Place: Centre Borschette, Brussels

The list of attendants is attached as a table at the end of the document.

Introduction

Mr René Kemna (RK, VHK, chair), opens the first stakeholder meeting for the Review of the fan regulation

Martijn van Elburg (MVE also VHK) presents the agenda of the meeting. After each presented task he will allow room for discussion on specific items.

Subject matter scope

RK ask the stakeholder whether the scope needs to be segregated more into market segments or application areas, and if the upper (500kW) and lower limit (125W) should be changed.

Charles Halstead (Halifax) states the Regulation is too generic in its approach to market segments and proposes to allow distinction between fans for domestic, HVAC or industrial applications etc.

Geoff Lockwood (EVIA) states that the scope cannot be simplified further. He proposes to keep the current scope and maybe even add some categories.

He states there will be no problem adding fans <125W to the current regulation. The slopes can be the same the only thing that needs to be changed is the end number. The same test standard (EN/ISO 5801) is used for these small fans as for the larger ones. In the data send to the authors of WP 2 he sent suggestions for these end numbers. He further elaborates that these fans are not only used for ventilation.

RK asks if many of these fans are already regulated by the ventilation products regulation.

Geoff Lockwood (EVIA) replies that many applications are not ventilation but for instance sunbeds, projectors, and electrical appliances etc.

Karsten Witt (Witt-Sohn) proposes an upper limit identical to the motor regulation for better consistency (savings will be very small as such large fans are already very efficient).

Veerle Beelaerts (Daikin) opposes the inclusion of fans <125W. These fans are covered by end product regulations.

Fanny Rateau (EHI) agrees.

Cascading

Martijn van Elburg explains that resulting from the survey, many stakeholders do not like the idea that products are subject to double regulation or cascading.

Mikael Lönngberg (Systemair) and Volkmar Uebele (BSH/CECED) oppose against fans being covered by both a fan regulation and end-product regulations.

Geoff Lockwood replies that cascading of regulations may be unpleasant, but is important to avoid loopholes. As an example he states that fans in cooker hoods are covered by product regulation, but are not very efficient. He states that the drawback of just end-product legislation does not outweigh the drawback of cascading.

Andrea Voigt (EPEE) agrees and adds that double regulation increases costs for the involved manufacturers. For instance:

- Using energy efficient components does not guarantee that you have an energy efficient end product.
- Cascading increases difficulties for market surveillance: how do they test the individual components?
- And cascading could lead to higher costs of the end-product

Juergen Albig (Ziehl-ABEGG) supports EVIA's position.

Fanny Rateau (EHI) supports CECED and EPEE, against double regulation: it should be up to manufacturers to choose the best improvement options.

Geoff Lockwood (Ebm-Papst) states that double regulation adds costs but for fans integrated into products, the easiest solution is take your manufacturing outside Europe, which cost EU jobs.

Dario Brivio (Eurovent) states that the fan regulation should be applied throughout the whole industry and should not treat 'self-made' fans different to OEM fans (if OEM fans are covered and self-made fans incorporated into products are not, this could lead to a shift in the market).

Marcos Gonzalez-Alvarez (EC) answers that at the motor consultation forum meeting (29 September 2014) it was said that if we have the motor regulation (component regulation) and do not apply it to incorporated products then this regulation would be useless as a motor is always incorporated into another product.

RK adds that it might not always be possible to look at end products. There are examples of complex (and large) commercial/industrial products where the legislator may decide to be content with the regulation of energy efficiency only at component level (motors, fans, pumps, etc.) and not the whole end-product. In those cases, even if one should decide to avoid double regulation, a fan regulation is always useful. As an example of how this could be treated in legislation, RK mentions the standby regulation, which started out as a horizontal regulation with a broad scope and then, as products in this scope were regulated in their own specific regulation the standby requirement was taken out of the scope of the horizontal measures (i.e. the standby regulation was amended) and included in the product-specific legislation.

Volkmar Uebele (BSH/CECED) suggests an approach based on a name/rating plate to identify OEM components from self-made, whereby OEM produced could be verified by catalogue data or tests and not at application level. Nameplate tagged OEM fans would not need to be verified in the product. The self-made fans should be tested as close to its application as possible.

Dario Brivio (Eurovent) mentions an additional problem with cascading regulations is the timing issue. Manufacturers are frequently forced to redesign their products due to different deadlines in different regulations. A solution would be to have similar deadlines and introduction dates of tiers.

Matteo Rambaldi (CECED) likes to see system improvement instead of component improvement so we would like to see the part “included into other products” removed from the regulation. To align all regulations is not possible; this is also a drawback of cascading when year after year other regulations have new requirements.

Exclusion of cooling impeller for electric motor

All stakeholders agree to exclude this from the scope.

Fans in small clothes driers.

Dario Brivio (Eurovent) states that Eurovent agrees with removing exemptions as industrial fans which work in similar operating conditions are not excluded.

As regards the proposal of nameplate tagging (suggestion BSH): we do not support this.

Jacob Wilken (MIELE) wants confirmation that fans <3kW means an appliance of <3kW. This is confirmed in the Fan FAQ. He prefers the nameplate tagging solution.

Geoff Lockwood replies that a fan alone has to meet the criteria not the complete product.

RK asks if there is any commercial advantage resulting from the EU Fan Regulation.

Geoff Lockwood (Ebm-Papst) answers that 327/2011 resulted in full test houses. Ebm-Papst follows the regulation and is mainly worried about others not following it. Free-riders have a commercial advantage, by avoiding test costs for non-compliant products.

Charles Halstead (Halifax) sees no advantage, only overhead and extra costs.

Dario Brivio (Nicotra) adds that a high efficient product causes extra costs and this is not positive for export.

Juergen Albig (ZIEHL-ABEGG) sees benefits for high efficiency products. In the US, Australia and parts of Asia it is beneficial to have more efficient fans and this market need is growing due to stricter regulations.

Sham Morten Gabr (Multi-Wing) is worried about the flexibility for tailor made products. These might be in danger due to standardized regulation. Some customers are not happy with the available complete packages, which do not fulfil the customers' requirements, and ask for bespoke (tailor-made) fans.

Karsten Witt (Witt-Sohn) warns that from a short term perspective there are negative points to the regulation. On the longer run, high efficiency fans and efficient products are positive in a global perspective.

Thomas Wolfanger (HYDAC) states products should represent the state of the art, but the ratio of effort (=cost) and gain has to be sensible. Fan efficiency plays a part in the overall efficiency of their products. He advocates for a regulation that can be understood by non-specialists. A non-specialist must be able to apply the rules and declare conformity when having all necessary data like fan and motor and transmission and VSD etc. efficiencies at hand.

Claus Händel (EVIA) adds that USA, China and Japan discuss fan efficiency regulations. It might not only be beneficial to export products but also knowledge and view on regulations.

Geoff Lockwood adds that the ISO 12759 measuring standard is followed by most of the world.

Volkmar Uebele BSH adds that saving energy is never the sole advantage. Clients focus on costs as well.

ATEX

First several stakeholders' state that ATEX fans do not need 3rd party certification.

Witt-Sohn: Eurovent would like to remove this exclusion, provided that suitable minimum levels will be set for these fans. He further states that high temperature fans should remain excluded as gas temperatures go above 100 degrees Celsius. They should be tested in operating conditions for which they are designed but a suitable testing procedure has never been established. ATEX category 1 does not require 3rd party testing.

In a written comment to the minutes Mr. Brivio explained that ATEX fans are divided into 3 main categories, 1 (high protection), 2 (medium protection) and 3 lower level of protection). None of them is subject to 3rd- party test requirements, but Cat 1 fans require third-party design assessment by a notified body, Cat 2 fans require that the technical file, demonstrating the conformity of the product to the essential requirements (risk assessment, essential technical solutions incorporated into the product design, essential quality-control procedures required to guarantee conformity), is deposited with a notified body, Cat 3 fans require that the certification of conformity issued by the manufacturer is supported by a similar technical file, kept at the manufacturer's site. EN 14986 sets the standardised design requirements for ATEX fans.

Charles Halstead states that ATEX fans do not need 3rd party testing.

Neil Jones (European AMCA) explains that 3rd party testing is not mandatory but a declaration of conformity is required in which a risk assessment is done to define extra running clearances in these products, so they are less efficient due to these clearances.

A study should be performed to define minimum levels for these and emergency fans in case they are no longer excluded. There is no danger of a loophole, because there is no economic advantage for these fans because the additional costs are higher than those of other fans.

Marcos Gonzalez-Alvarez (EC) clarifies that there is no final position on ATEX motors yet.

Mikael Lönnberg (Systemair) wants to keep this exclusion.

Range hood

Volkmar Uebele (BSH) would like to see the range hood fans (<280 W) remain excluded as these are already covered by regulations 65/2014 and 66/2014 on cooking appliances. Range hood fans would not reach current fan efficiency requirements.

RK asks if the 280 W limit could be lowered, because larger hoods/fans can easier reach the limits set, which might cause a trend/ shift to buy larger hoods.

Volkmar Uebele (BSH) replies that they do not see a shift towards bigger more efficient hoods.

LVD

Witt states that they prefer alignment with the (revised) Motor regulation. The relevant standard for motors now covers a larger scope (up to 1 MW) and fan regulation should be aligned, even if little savings result from this (large fans are already very efficient).

Gas Properties

RK states that the revised regulation should include definitions of gases covered and proposes that VHK tries to come up with draft definitions for gas properties. Concerning clean air definition a proposal from EVIA exists.

Claus Händel proposes to use a general approach, for instance use the term "breathable air" and not clarify too much in details (particles etc.)

Charles Halstead (Halifax) asks why backward inclined fans and narrow bladed fans are not included as category in the regulation?

Geoff Lockwood explains that, at the time, nobody from that particular industry subsector was attending the meetings when the regulation was discussed. As a result, nobody added them or opposed against them.

Felix van Eijken (Eurovent) states that these fans are not discussed with the members of Eurovent and they will come up with a written comment.

Marcos Gonzalez-Alvarez (EC) states that data for these fan types need to be supplied and analysed after which a decision to include or exclude them can follow

Charles Halstead (Halifax) agrees to assist in collection of backward inclined fan data (such as sales, stock, energy consumption) and an argumentation why they should be included in the revision.

Replacement fans

RK mentions that this is an issue from the existing regulation that cannot be solved here; this meeting is intended for the future regulation.

Charles Halstead (Halifax) adds that motors are made to an EC frame-size, so changing them (with more efficient models) is not that difficult. More efficient fans might not be the same size and they do not have the same size as with motors so this is an unfair comparison. He adds that he believes reuse is better than recycling.

Geoff Lockwood agrees that there are standard sizes for pumps and motors and not for fans. Interchangeability is not always possible because for instance a higher efficiency fan requires a different scroll or other component and this might not fit in the same space as the old one. He sees that there is a potential loophole for people selling inefficient fans and saying that they are spares. If it is clearly included in the new regulation that such parts have to be marked as a spare part and thus can be checked when they go into new products, there is no problem.

Andrea Voigt (EPEE) agrees with Geoff Lockwood, you can't always put the newest components in an old product.

Volkmar Uebele (BSH) states that when you label a product/ component as spare part then there will not be a loophole.

RK asks for an estimate of the ratio between spare parts and new sales?

Geoff Lockwood answers that spare parts probably take up 1%.

Veerle Beelaerts (Daikin) states this will be around 3%.

Volkmar Uebele (BSH) around 2% replacement parts in hoods business

Fermí Tanyá (Sodeca) states that there is a small range of spare parts in the market, less than 1% of the cases but depend also on the contract with the customer.

RK asks whether 5 years a reasonable time limit is or not?

Geoff Lockwood (EVIA) would like to see 10 years but can accept 5.

Claus Händel (EVIA) adds that there is a legal aspect for spare parts and the blue guide needs to be checked also on this matter.

Sander Venema (HOWDEN) adds that they deliver industrial cooling fans to nuclear power plants and they have to replace broken parts with exactly the same parts, even same materials used. When something breaks down in a nuclear power plant you want to have its down time as short as possible and the easiest is to replace all parts, and not just the broken/worn out component.

RK asks the stakeholders to supply data and arguments to the study team on time as it can be analysed for the future.

Exemption >8000rpm

Marcos Gonzalez-Alvarez (EC) clarifies that the vacuum cleaner regulation 666/2013 (Article 8) has amended the fan regulation and there is no information requirement anymore [fans >8000 rpm are now fully exempted].

Ratio >1.11

Charles Halstead (Halifax) states that the regulation needs more categories because not all fan categories are covered or are able to reach set requirements due to simplification which is not possible.

RK answers that we are open for suggestions but you have to provide us with data and we would like to see also suggestions for progress in requirements.

Dual use

MVE explains that there are three important issues here:

- 1) Allowance
- 2) Reversibility
- 3) Loopholes

Karsten Witt (Witt-Sohn) answers that you need an allowance of 3-5 % for tip clearance. When a fan is reversible you also lose 3-5%. So I prefer not to lower the allowance to 5%. Loopholes are prevented by 3rd party certification for higher temperature fans (higher classes).

Neil Jones (European AMCA) adds that Class F200 fans (2 hours operating at 200 degrees) have to be approved by 3rd party certification. But fans in class range F300 and F400 are currently becoming more and more popular.

Tip clearance + housing + motor+ materials required for operating in these conditions make the fan more expensive. It may be possible to regulate the efficiency of Category F200 Fans in the same way as normal fans because many manufacturers will use standard motors and standard tip clearances for this option.

F300 and F400 fans must still be allowed a 10% (not 5%) derogation to allow for the essential tip clearances required for safe emergency use. (NB: the tip clearance is recorded by the Notified Body when a fan is type tested, and ongoing compliance in production must be verified by Notified Body Audit of Factory Production Control.)

In a written comment to the minutes Mr. Brivio explained that:

“Smoke and heat ventilation fans” are ALL subject to third-party (notified-body) design assessment, itself supported by mandatory high-temperature tests.

These products are classified according to the combination of temperature which they can withstand, and the time for which they are tested and guaranteed at such temperature. The three figures after the F letter are the temperature in C, for which the fan is designed and tested. The critical aspect for smoke ventilation fan design is the gap between rotating and stationary part, which may reduce at high temperature, particularly for axial fans. To prevent contact at high temperature, in such fans, the gap at ambient temperature must be larger than usually required for conventional fans.

The higher the maximum operating temperature, the larger the gap must be at ambient temperature, to compensate expansion of the hot aluminium impellers, larger than that of the colder cases, often made of a different metal.

A similar problem arises with the internal gaps of the electrical motor, which may be itself exposed to high gas temperatures.

A larger gap impacts negatively the fan efficiency. This implies that the efficiency of smoke and heat ventilation fans, e.g. of class F400, shall be lower and deviate more, from that of a similar fan for normal temperatures, than that of an F200 fan, which may sometimes even be built to the same design standards of a normal-temperature fan, and just be subject to additional testing and certification.

Jet fans

Karsten Witt (Witt-Sohn) explains that jet fans create thrust. The standardisation working group for EN 13350 created a formula to calculate this thrust as N/kg. Witt-Sohn analysed the EN13350 formula using own and other catalogue data and came to the conclusion that the formula is not correct. The formula will be discussed in TC emergency meetings the coming days.

So at this moment they propose not to include jet fans in future regulations, because there is still no proper way to measure them, nor what target level could be suggested.

Dual purpose and reversibility applies to jet fans as well, but as jet fans already operate with higher clearances, no special corrections at requirement level would be needed.

Market surveillance

Eurovent is worried about future developments under the Regulation. Eurovent sees an increase in low efficiency, low cost products on the market that are non-compliant, without visible market surveillance. Without control, legislation is useless. Member states have been addressed but unsuccessfully so far. Eurovent doesn't see accreditation as a solution. Accreditation asks for capable test labs/ facilities. For compliant manufacturers it will be a burden and this will not deter non-compliant manufacturers if there is no surveillance. According to Eurovent there is no level of playing field throughout Europe.

Thomas Damm (VDMA) states that VDMA proposed a procedure for market surveillance in Germany to deal with this issue, currently only for fans and pumps. The working procedure of market surveillance is based on industry activity. He cannot go into details of discussion on this but wants to state they are working on it.

Andrea Voigt (EPEE) states that EPEE addressed Member States on the market surveillance issue and is active member of ECOPLIANT study Market surveillance authorities want to improve ecodesign requirements check by sharing data, introducing a database, recognizing test results and by more frequent data transfer.

Karsten Witt (Witt-Sohn) states that buyers of mass produced fans demand compliant energy efficient products. Manufacturers of industrial, bespoke products harm themselves when they use non-compliant products. The industry organizes itself.

EVIA is against 3rd party certification. Member States should deal with the Ecodesign Directive same as for safety and other regulations.

RK asks whether on-site testing of large fans is an issue?

Sander Venema (Howden) replies that they do model testing and when the client asks for on-site testing they will go on-site but mostly scale/ model testing is sufficient.

Dario Brivio clarifies that the CEN working group discusses the issue of scale testing, i.e. if it is wise to do that instead of large fan testing. Testing scaled down models may be on the safe side (implying that real-size testing gives higher efficiency values than scale model testing). The work on the standard and possible answer how to deal with model testing will be finished within one year.

Sham Morten Gabr (Multi-Wing) supports availability of third party/independent labs and air performance expertise. This because, in general, fan integrators do not have test facilities for fans but test facilities related to their products, which purpose is different from a fan. That would allow integrators to access self-declared components from suppliers and ensure access to independent fan expertise and lab.

8.2 Ecodesign Requirements

Uwe Sigloch (Ebm-Papst) explains that the data used to arrive at the slopes were taken from the market. Currently there are VSD motors with higher efficiency then discussed here. Following a question from RK, he answers that around 50% of their sales consist of fans with EC-motors (Electronically Commutating motors, e.g. brushless DC, permanent magnet, switched reluctance) with AC motors making up the other 50%.

Eurovent adds that the development of the curve/slope is indeed based on products on the market. The lower end of the market still had low efficient motors at that time.

Charles Halstead (Halifax) states that when looking at the curves he sees that a 11kW fan needs to have a higher efficiency than a 15 kW fan, i.e. the fan slopes should show a 'break' (are not continuous).

RK asks Halifax and EBM-Papst to send data so we can analyse their statements.

Charles Halstead (Halifax) states that the BEP can be reached at any speed. How do we choose the maximum allowable speed?

Geoff Lockwood adds that you need to define maximum speed yourself and declare it in the results of a compliance test.

RK confirms that the manufacturer defines the speed for BEP-measurement and then declares it in his specifications, so that surveillance authorities can check/reproduce the declared values. It is proposed to clarify this in the revised text.

RK reminds the stakeholders that the Member States (amongst others) would like to see an update of the limit values. From the written comments no actual values were proposed but there seems to be a consensus from the comments that were received that the slope is too stringent for the smaller fans and too lenient for the bigger fans and thus may require adjustment in that sense. Furthermore, it stands to reason that the overall efficiency improvement currently discussed in the motor regulation may lead to a similar improvement with fans. RK asks for reactions.

Halifax answers that this seems OK, provided that there is better fine-tuning for the pressure/volume ratio. No reactions from others.

Not final assembly

Eurovent states that a fan consists of three main elements: impeller, motor and stator (fan housing, struts, scroll, etc.). Fan manufacturers that supply all components can calculate/ measure fan efficiency.

Manufacturers who assemble parts themselves (impeller + motor + transmission with or without VSD) need a more methodological approach to calculate fan efficiency as motors or transmissions may change

An option for fan integrators that use non-OEM, bespoke stator (like a very specific, product integrated housing) is that they use the Declaration of Conformity of the fan part (impeller and motor) supplier and declare the stator is in accordance with the instructions of the fan part supplier.

Geoff Lockwood (EVIA) would like to see not-final assembly deleted. Impellers are not connected to mains (same rule as excluding battery operated fans).

Sham Morten Gabr (Multi-Wing) sees a need for a final assembly calculation in some situations. This covers driven impellers integrated into products, which purpose is different from a fan, and where integrators might need multiple configurations and/or the housing is an embedded part of the product, and/or the integrated fan cannot be tested independent from the products final functionality. Then, a unique way would be to associate available fan impeller data and motor data from supplier. This by calculating overall fan efficiency and determine input power based on the impeller manufacturers standardized lab inlet conditions, together with the actual motor data and its

own efficiency, by taking into account the real motor data and motor shaft load. This in order to ensure a proper matching of the fan impeller and motor integrated solutions. Final calculation needs to be build-up of the actual motor + actual load of the impeller so close to real life operations. Obviously, it's simultaneously important to take into account the impact on the final functionality of the products in the fan/impeller design and selection process.

Thomas Wolfanger (Hydac) and Kristof Vervloesem (Baltimore) state that if not final assembled products, where a fan is only one part of the efficiency determining components, are kept in the regulation, it should at least be possible to declare conformity by using conforming components, for example motor and impeller.

Yingan Xia (Punker) thinks it is impossible to determine total fan efficiency. One can only measure impeller efficiency. He is in favour of removing impeller out of regulation.

In a written comment to the minutes Mr. Brivio doubted this statement (it is impossible to measure the efficiency of an impeller without combining it with some kind of case, but then the measured efficiency does not apply to the combination with a different case design, hence the request in the last sentence.)

RK asks what the big advantage is to include impellers in the scope?

Kristof Vervloesem (Baltimore) states that a fan separately cannot be assessed when buying a cooling tower, because it is in the product. Only the impeller can be verified in a test rig at the supplier and can be installed in the same setting as in the test rig. Because how are you going to cut a 4m high fan out of a cooling tower fully incorporated, there is no housing, it is full in the product. When the impeller is in the scope one can work with the fan manufacturers/ assemblers/ supplier to build up a fan that complies. When the impeller is a critical part (impeller + motor + stator) why does it not need to comply?

Sander Venema (Howden) replies that they only are able to prove impeller efficiency
If a fan can be tested in an end product but there is an obstacle in front of the end product. How should we deal with this? Impeller testing in test rigs is straightforward for us to get an accurate value of impeller efficiency.

RK states that at this moment it is not defined how many parts a fan should consist of but we need a stricter definition; we have to start from a minimal configuration.

Geoff Lockwood (EVIA) states that they agree with Eurovent that a fan needs at least these three parts. Drop not final assembly. Johannes Anschütz (Nicotra Gebhardt GmbH) agrees with EVIA's statement.

RK concludes that those manufacturers that are in favour of including the impeller efficiency, i.e. the non-final assembly, are not motivated by a commercial need to sell single impellers or parts of the fan [as previously might have been assumed] but that they have a testing/verification problem to prove overall fan efficiency for their product (mainly cooling towers) in a way the regulation requires. And as a possible solution to this problem, they advocate 'impeller efficiency'. But actually it would make more sense if the legislator would investigate the problem properly and find a proper solution (e.g. in modelling, testing, possible exemption of certain items, etc.), rather than a generic inclusion of impeller efficiency.

RK clarifies that we have discussed two problems at the same time: The first problem is the testing of fans that cannot be tested using standard test procedures (such as the one of which the full cooling

tower forms the housing). A second problem is how to declare conformity of fans that are not yet complete. Here many stakeholders agree that the test should be for the final configuration (so if the motor of a bare shaft fan is missing, then the final person attaching the motor is the final manufacturer and would need to show compliance of the fan).

RK asks how far the standardisation groups are on the definition of 'fan' (and in particular 'fan housing for testing' in cases where there is a suboptimal fan housing geometry due to other functionality considerations in the end product) but at this point there is no reaction from the meeting. The study team is waiting for written input on the subject.

Verification procedure and verification tolerances

Karsten Witt (Witt-Sohn) states that there are 2 types of fan tolerances:

- 1) Design tolerances
- 2) Measurement tolerances

Both are additive, but in regulation it needs to be clearly stated what needs to be measured. This is an issue of clarity.

Marcos Gonzalez-Alvarez (EC) states that tolerances in the regulation are for market surveillance to carry out tests. Market Surveillance needs to take them both into account.

Box and roof fans

Harry Keller (Helios) states that box and roof fans are tested according to ISO/EN 5801 so similar to the products in the scope of this regulation. In order to close the loophole of products not covered by the ventilation regulation he proposes to put them all in one regulation. Another advantage when all are in one regulation is that they will be measured the same way and same kind of requirements can be set. All in one regulation makes assessment easier for manufacturers and market surveillance.

Johannes Anschütz (Nicotra Gebhardt GmbH) also proposes to bring it all back to the fan regulation as it was in the beginning, it is not properly covered in lot 6. Roof fans without additional components can be seen as a fan category. This is the basis for including them in future fan regulation.

Markus Mayer (Rosenberg Ventilatoren) state that the fan does not exist in draft ventilation regulation (lot 6), but we don't have a problem / no changes needed within Lot 6 if they are handled in Lot 11. We propose not to include them when we don't include jet fans.

Mikael Lönnberg (Systemair) states that the box and roof fan is covered in the draft ventilation regulation (lot 6). If box and roof fans are added in regulation 327/2011 the same product will be covered by two regulations.

Juergen Albig (ZIEHL-ABEGG) thinks both options are possible. When components are added to the fan you go towards an air treatment product and then it should be in lot 6, if these components are excluded or can be reduced then it fits in the fan regulation.

The majority of Eurovent members are against inclusion of box and roof fans, because of practical considerations. First fans have been redesigned according to 327/2011 and now they have to be redesigned according to the ventilation regulation, and in the future fan regulation they have to redesign again which they feel is too much.

Claus Händel (EVIA) states that all ventilation exclusions might be included in the fan regulation, but it will be a big burden on the manufacturers when same product has different requirements to fulfil.

RK thanks participants for their input and closes the meeting.

List of participants

First name	Surname	Organisation
Katia	Zielo	Aermec SpA
Yogesh	Krishnasing	Atlas Copco
Andy	Venneman	Atlas Copco
Kristof	Vervloesem	Baltimore Aircoil International (member of Agoria)
Volkmar	Uebele	BSH
Matteo	Rambaldi	CECED
Astrid	Nève	CECED
Takahiro	Okii	Daikin Europe
Veerle	Beelaerts	Daikin Europe
Geoff	Lockwood	Ebm-papst UK Ltd
Chloe	Fayole	ECOS
Fanny	Rateau	EHl AISBL
Francesco	Magrini	Elica
Andrea	Voigt	EPEE
Colombo	Danilo	Euro Motors Italia / Anima
Neil	Jones	European Air Movement and Control Association
Mark	Stevens	European Air Movement and Control Association
Marcos	Gonzalez-Alvarez	European Commission
Felix	Van Eyken	Eurovent
Morten	Schmelzer	Eurovent
Bill	Cory	Eurovent PG-FANS
Uwe	Sigloch	Eurovent/VDMA
Günter	Lehmann	EVIA
Denis	Bonvillain	EVIA Deputy Secretary General
Claus	Händel	EVIA Technical Secretary
Kenichi	Ichihara	Fujitsu General Euro GmbH
Charles	Halstead	Halifax Fan Ltd
Harry	Keller	Helios Ventilatoren GmbH + Co KG
Sander	Venema	Howden Netherlands BV
Peter	Holkers	Howden Netherlands BV
Thomas	Wolfanger	Hydac
Yingan	Xia	Punker
Ruggero	Poletto	Maico Italia
Marko	Schnarr	Miele
Jakob	Wilken	Miele
Hidekazu	Tani	Mitsubishi Electric Europe
Sham Morten	Gabr	Multi-Wing /
Johannes	Anschütz	Nicotra Gebhardt GmbH
Dario	Brivio	Nicotra Gebhardt S.p.A.
Sebastian	Merino	Panasonic
Markus	Mayer	Rosenberg Ventilatoren GmbH
Carlo Alberto	Chiarelli	RPM SPA
Fermí	Tanyà	SODECA S.A.

Josep	Surroca	SODECA S.A.
Alberto	Pirovano	Soler&Palau
Mikael	Lönnberg	Systemair
Thomas	Damm	VDMA Frankfurt
Martijn	van Elburg	VHK (presentation)
Roy	van den Boorn	VHK (minutes)
Rene	Kemna	VHK (chair)
Karsten	Witt	Witt&Sohn
Juergen	Albig	ZIEHL-ABEGG SE

To do list

Geoff Lockwood (Ebm-Papst)
Ebm-Papst data fans <125W

Uwe Siegloch (Ebm-Papst)
Data showing that VSD motors are more efficient compared to data used in the fan study.

Felix van Eijken (Eurovent)
Position paper on backward inclined fans and narrow bladed fans include in future regulation or not?

Charles Halstead (Halifax)

- Provide data concerning sales, stock, energy consumption and a written document why backward inclined fans, radial inclined and narrow bladed fans should be included in future regulation.
- Data to analyse statement that there are 2 breaking points in the energy requirement slopes.

Karsten Witt/ Neil Jones
Data and explanation concerning calculation method jet fans in ISO 13350.

All stakeholders

- Data/ figures how many spare parts to new sales?