

**Review study on Commission  
Regulation (EC) no 327/2011**  
EVIA Comments to  
*VHK discussion document 21<sup>st</sup> Nov 2014*

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## **Introduction**

The European Ventilation Industry Association welcomes the VHK discussion document dated 21<sup>st</sup> November 2014 regarding the review of regulation 327/2011. We note that the consultant, on behalf of the Commission, has taken into consideration many of the problems, request and suggestions from the European Fan industry. The industry still has some concerns particularly with the proposed slopes and limits.

We welcome the proposal to remove 'not-final-assembly' from the regulation as this resolves problems with impellers, motor default values and compensation factors. We see the proposal to provide a 5 year grace period for spare parts as a benefit for manufacturers, users and the environment.

We have serious concern regarding the proposed change in slopes and the limits. We do not see that the proposal has taken into consideration any impact on the industry, investment and jobs. The slopes in the current regulation were based on an analysis of data from the original study and are seen as pragmatic. They have had an impact on the industry who has invested heavily in change to meet the demands. In general we see the proposed slopes and limits in the discussion document give scant consideration of the industry and of the significant losses that will result in European manufacturing.

The following comments are mainly related to the slopes and limits plus a few other items such as dual use fan and ATEX.

### **1. Slopes and limits**

The proposed slopes and limits are flawed. The slopes and limits do not reflect the market place and what is possible. The proposal is too high and the consequences have not been investigated through an impact assessment. We do not agree that the slopes should be further increased in line with the motor regulation.

#### *1.1 Motor regulation*

The report suggests that the new limits should be increased to align with the motor regulation. This is incorrect because the current regulation is already aligned with the motor regulation. The original study took into consideration the limits in Regulation 640/2009. The 2015 limits in fan Regulation already takes into consideration the 2017 limits of the motor Regulation.

The original fan study considered more motor technologies than in the scope of the motor regulation. The fans slopes take into consideration all types of motor technologies.

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*1.2 Indicative Benchmarks*

The indicative benchmark levels in the current regulation are wrong and do not clearly represent what is possible. A fundamental problem of the indicative benchmarks is that they do not consider the fan speed, size, the duty point, or specific volume characteristic – (static to total pressure ratio). For one input power there is a range of indicative benchmarks efficiency points depending on these variables. See separate document.

*1.3 Forward curved*

The proposed level for centrifugal fans will result in the removal of forward curved fans from the market. We do not agree with the statement that forward curved fans offer no unique qualities that cannot be reached with a backward curved fan. The forward curved fan has a higher power density and improved subjective acoustic characteristics and therefore demonstrates an environmental advantage over the backward curved centrifugal.

We suggest keeping a separate limit with a change of slope; e.g. use the backward curved slope and a level of N52 (static) for 2020. This has a small increase for the small fans and a large increase for 10kW and above. This recognises the unique high power density small forward curved fans provide the market place and the environment. The very high level of the slope at 10kW will remove the majority of forward curved fans and reflects the market place where these machines do not offer unique qualities over and above backward curves.

An interim slope for 2018 will be too great an impact on the industry. If these revisions come into force in 2016 then the industry will need at least three to four years to develop the technology.

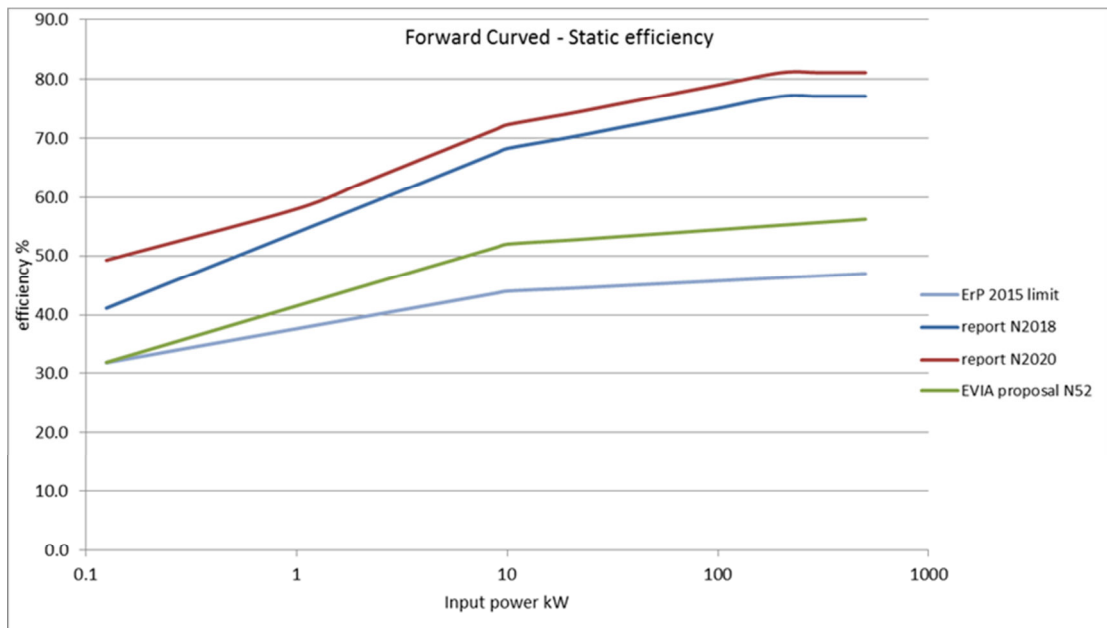
The proposed slope is simpler than that proposed in this report and simplifies the current regulation as there will be only one slope for all fan types, just with different N values.

We agree that there should be a distinction between static and total values.

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Graph of forward curved fans showing proposed new limit of N52 (static)

#### 1.4 Axial Fans

The proposed slope is much too high and would be a severe impact on the industry. We recognise there is room for improvement and propose the same slope as centrifugal fans with an N value of N48 (static) for 2020.

An interim slope for 2018 will be too great an impact on the industry. If these revisions come into force in 2016 then the industry will need at least three to four years to develop the technology.

We propose to use the same slope as the centrifugal and mixed flow fans of the current regulation i.e.  $4.56 \cdot \ln(P) - 10.5 + N$  and  $1.1 \cdot \ln(P) - 2.6 + N$ . This will simplify current regulations resulting in one slope for all fans. It provides a simplification to the proposal in the report. It will deliver significant energy savings.

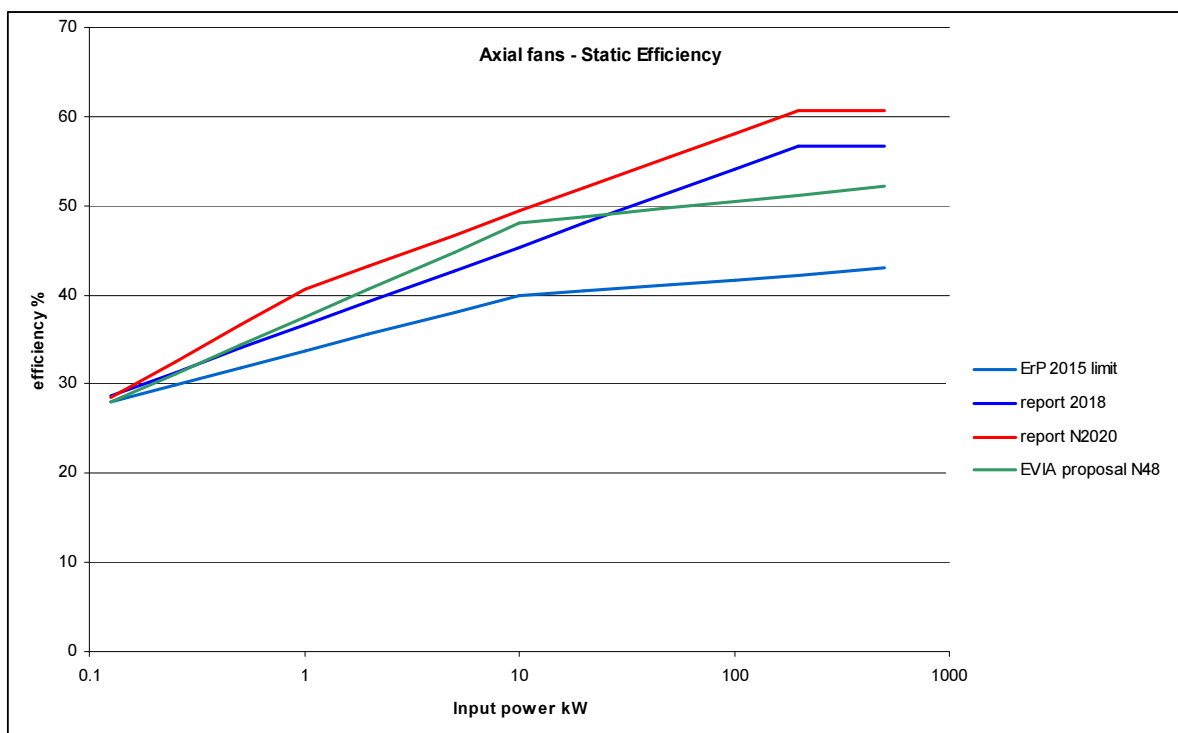
As previously stated, the difference between static and total limits of the current regulation is too great. The difference between the 2013 static and total limits was 14, which increased to 18 for 2015 and is unchanged in the discussion document proposal. The difference between the 2015 static and total limits for mixed flow is 12 and is reduced to 10 in the discussion document proposal. Similarly for centrifugal fans, the 2015 difference of 3 has been reduced to 2 for 2020. We agree that there should be a distinction between static and total values for axial fans, but this should be a maximum of 14.

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We would propose that the total figure for axial fans is N62 for 2020, which still provides a significant stretch over the 2015 limit.



Graph of axial fans showing proposed new limit of N48 (static)

### *1.5 Backward curved*

We agree on one limit for backward curved centrifugal fans with and without scroll.

The current 2015 levels for backward curved centrifugal fans are already very harsh for the industry. We can see no technical measures in the foreseeable future to increase the efficiency of these fans to justify an increase from the current level of N62 (static).

If the commission wishes to have increases then there would be a need to divide this category into separate technologies and sub categories recognising different impeller types for different pressure/volume ratios. We see this would be moving away from simplification.

We agree that there should be a distinction between static and total values.

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*1.6 Mixed Flow Fans*

To continue with our proposed simplification we suggest that the same slope is used for this category, which is the existing one. In line with the consultants suggestion the level should be between the backward curved centrifugal and the axial fans. We propose a value of N55 (static) for 2020.

An interim slope for 2018 will be too great an impact on the industry. If these revisions come into force in 2016 then the industry will need at least three to four years to develop the technology.

We agree that there should be a distinction between static and total values.

*1.7 Small fans*

As previously stated by EVIA the current levels are more challenging for small fans than large fans. We have addressed this problem with the slopes discussed above that provide a small increase for small fans and a larger increase for large fans.

We recognise that other stakeholders and the commission would want to see increases of the level of the slope in the future. We would like to stress that any increase in the small fans would be very challenging and should be taken into consideration.

**2. Dual use**

We are very disappointed that the consultant has ignored the technical and commercial arguments from the industry. Dual use fans are intended to protect the life of European citizens and this has not been taken into consideration. As the limits of standard fans are increased the allowance for dual use fans and ATEX fans needs to be increased.

We would like clarification on what is the allowance, is it percentage or -N points?

**3. Reversible fans**

We note that the report recognises reversible fans but does not make any allowances for these fans. We propose that the limit for a reversible axial fan is at 10% below the regulated limit.

**4. ATEX**

We agree the inclusion of ATEX fans when ATEX motors are regulated in the motor regulation. We do not agree with the proposed allowance until an appropriate study is undertaken and the ATEX motors are regulated.

We would like clarification on what is the allowance, is it percentage or -N points?

**5. Jet fans**

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We propose new definition 12 'jet fans' is changed to encompass all fans, not just axial fans.

We do not agree with the definition of dynamic pressure as a measure of jet fans efficiency as it does not align with the draft standard ISO 13350. We strongly request that the regulation follows the technical standard. Therefore we cannot agree with the limits proposed until the correct methodology is included.

**6. Annexe 1 new definition (19) test fans**

The limit of 1m is too low we propose 1,6m.

**7. Roof fans and box fans**

EVIA restates its position that it supports the inclusion of roof fans and box fans in this regulation.

**8. Exemptions**

EVIA restates its position in respect to exemptions and refers to the discussion document figure 6.

**9. Annexe 1 requirements 2 (6) year of manufacture**

This requirement is for the product and cannot be for the free access website.

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