

Fan Regulation 327/2011 Review Meeting 22<sup>nd</sup> Jan 2015

Some main points for concern :-

1. A discussion took place on how accurate manufacturers could measure and therefore publish design efficiency data. A concern that there was no standard in which to measure efficiency.

COMMENT : Surely fans should be audit tested by the ISO9001:2008 registered manufacturer to the relevant BS/ISO standards (BS848 - ISO 5801).

ISO 12759 also gives clarity on how to calculate efficiency.

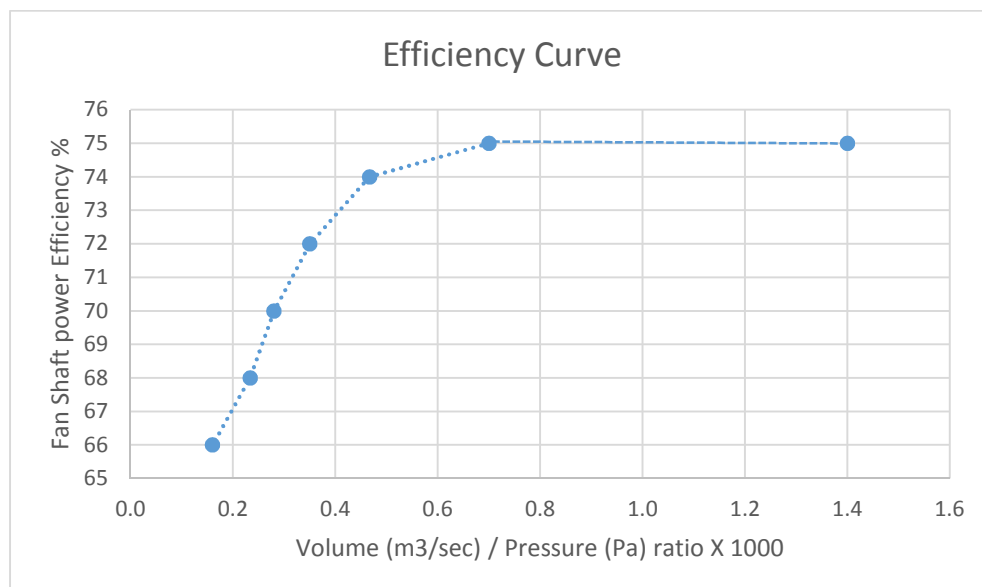
2. Should ATEX fans be included or excluded to the regulation? Rene Kemna (VHK Chair) suggested that the decision on fan inclusion/exclusion may follow the decision on Motors.

COMMENT : Fans are identified as having a high potential for ignition. The ways specified in EN14986:2007 to counteract the possibility for ignition is to use non-sparking materials and increase running clearances. Increases in running clearances reduce the ability to improve efficiency. Motors however can use increases in material mass (copper) to improve efficiency without risk to causing ignition, so cannot be likened to fans. Should safety be compromised?

3. Should efficiency targets consider Volume / Pressure ratio?

COMMENT : This would make more sense than having one efficiency target for all BC fans. Wider BC/BI impellers with lower air movement velocities present less of a challenge to conform to existing and proposed BEP's than a narrower, higher velocity unit.

Perhaps :



NOTE : graph gives details of fan shaft power efficiency NOT installed or overall efficiency.

4. Should the regulation treat Industrial fans, Commercial fans and fan/impellers designed for incorporation into other products (printers/cooling towers) differently?

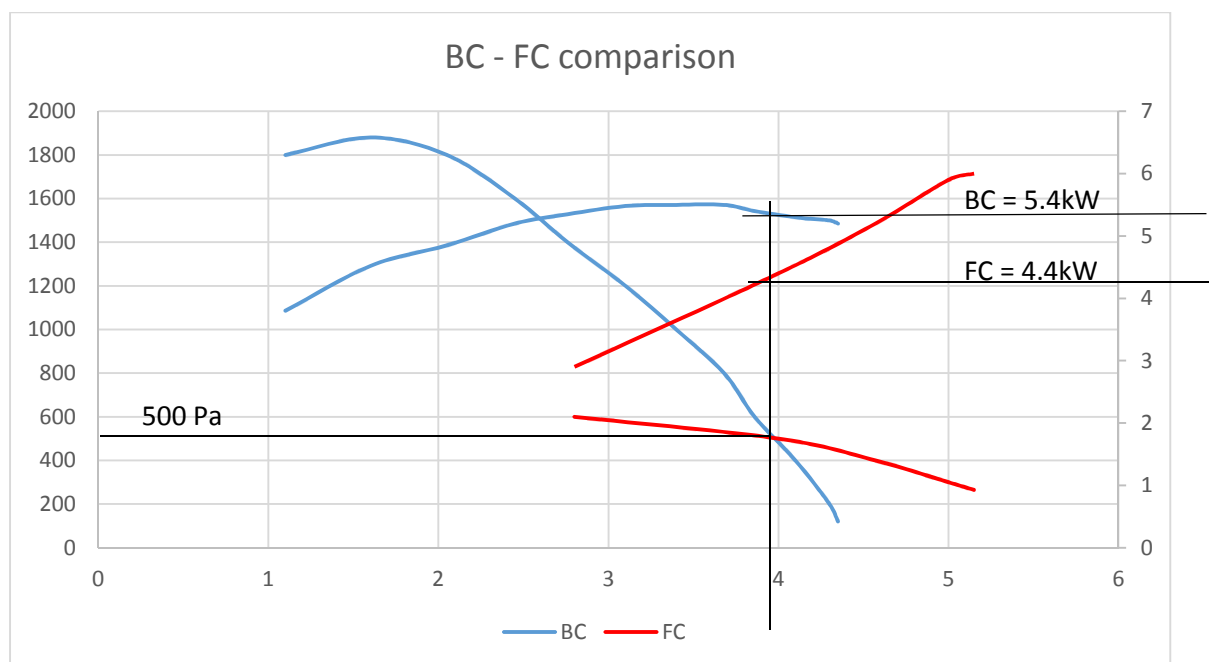
COMMENT : It is certainly difficult to apply ALL of the regulation equally to the above sensibly. What might be an ideal solution for an impeller design may make another product less efficient overall. For industrial fans it might be better to only consider shaft power efficiency rather than installed or BEP.

5. A) PB Type fans Changes to regulations concerning fans handling dust loads. New proposals stating anything under 200mg/m<sup>3</sup> and 1mm Dia in size particles would be regarded as clean air.

COMMENT : concern that dust handling fan applications are not fully understood by the commission and that correct product selection/application will be ignored over efficiency obsession. If a fan is being selected for handling dust, then it is correct that it is set apart from BC efficiency targets. Radial Blade (PB) and steep blade angle fans are important to our industry. The same for any exemption, providing it is treat correctly ie that the dust handling requirement is clearly marked up and the EC Cert of Enc clearly states validity for a dust handling application.

B) FC type fan efficiency category is proposed to be abolished. Proposed that BC fans should be used instead of FC fans.

COMMENT : Again concern that FC type applications are not fully understood by the commission. It is feasible that a BC fan with acceptable BEP could be used for an FC application but at an operational duty efficiency of 40% where an FC fan may reach upto 55% for same duty. FC would save energy in this application yet would be essentially outlawed.



6. Efficiency BEP for ALL fans to be common and to increase by 4% every 2 to 3 years upto 2018. Using Motor and Air Handling unit efficiencies as reference.

COMMENT : Impractical – cannot be applied sensibly to the industry. No appreciation by the commission as to what they are calling for.

7. Suitability of Best Efficiency Point (BEP) as guide.

COMMENT : using an installed power and working on BEP may suit some fan applications perhaps <10kW commercial type, however would recommend exploring Fan Shaft power (impeller absorbed) for industrial designed to order units to calculate allowable efficiency. This will be much more relevant and might be easier to regulate, test and is more industry standard.

8. VSD's - Should the fan manufacturer be able to take advantage of the VSD bonus if the manufacturer is not supplying and installing the VSD?

COMMENT : The bonus should still be allowed to stand providing it is treat similarly to an exception ie that the VSD requirement is clearly marked up and the EC Cert of Enc clearly states validity only when used with VSD.

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