

Report

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Sample description

Hörnell International Adflo turbo unit revised version, with ABE gas filter unit Art. No. 837242.

The revised turbo unit sample was received on 2001-11-23. Filters were received on 2001-06-28.

Testing

For capacity of system against ozone according to Force proposal of December 2000 for filters to protect against ozone during welding. The breakthrough criterion is not yet decided; currently proposed levels are 0,1 ppm, 0,01 ppm, or in between.

Ozone was generated by a silent discharge generator. A chemiluminescence detector UPM model 3010 was used to measure ozone before and after the filter. Ozone was sampled with a 2 m long PTFE tube of 1/4" i.d.

The test concentration level was verified by neutral buffered potassium iodide wet chemical method.

Results

Tests were performed with a single sample of the turbo unit mounted in an air stream of 200 – 210 l/min of 22 ± 1 °C and 70 ± 4 % relative humidity. The airflow rate chosen correspond to the maximum flow measured in the system.

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The test results relate only to the items tested.

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The ozone was measured in the breathing hose from the turbo unit at the connection to the unit.

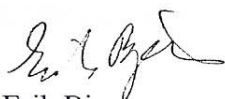
Sample	Test concentration ml/m ³ O ₃	Concentration in effluent air after 7 hours, ml/m ³ O ₃
1	10 – 12	< 0,002
2	10 – 12	< 0,002
3	10 – 12	< 0,002

Testing in the period 2001-11-26 to 2001-11-29

Conclusion

The Hörnell Adflo with 837242 ABE gas filter was very effective to protect against ozone at high levels with no signs of breakthrough after 7 hours. This corresponds to the proposed class TS Ozon 3 independent on the choice of breakthrough criterion.

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