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Ozone test on an air cleaning unit, "ACU", equipped with a "SPG" ion generator rod

Test item

A prototype of an air ionisation unit, labelled "ACU", was supplied by the client. Inside the cabinet the vital part, a carbon brush ion generator rod (negative, 12 kV according to client), with 16 carbon brushes were installed. This unit is called "air clean rod SPG" by the client.

By means of a fan, room air is drawn through holes on both side walls, passing the ion generator and then exhausted by the fan positioned on the central part of the lid.



Fig. 1 Exterior of ionization unit, with tubing for measurements of ozone positioned at fan outlet



Fig 2. Vital part inside the unit, the 16 carbon brushes air ion generator rod; "SPG"

Objective

RISE was commissioned to test the product, in respect of any ozone production from the unit during use.

Methods

The air ionization unit was connected to 230V AC, and an active (negative) ion production was demonstrated, by means of an ion meter supplied by the client.

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Detta dokument får endast återges i sin helhet, om inte RISE i förväg skriftligen godkänt annat.

To measure any ozone production from the test item, an ozone meter (2BTech, model 205) calibrated 5th of October 2017, was used. (RISE inventory no BX80761)

By means of a PTFE tubing, air was sucked from the outlet of the air ionization unit, next to the fan, to the ozone instrument. (The tubing has been used for several years for ozone measurements and could be considered free from any ozone reduction). The ozone instrument is equipped with a data logger to register the ozone level, averaging the signal once a minute in this case.

Constantly running the air ionization unit, the levels of ozone was measured for a period of approximately one hour.

Test results

No significant increase in the ozone levels could be observed at the fan outlet of the ionization unit, compared to the background ozone level in the room (that were in the range of 10-15 ppb). The registered ozone variations during the one hour test were less than 1 ppb. Thus, no ozone production could be measured during the test.

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