

Overview

Adding a controllable, non-contaminating and safe smoke into an Air Tightness testing regime enables you to quickly and clearly identify leak paths, and indeed the scale of leaks in building structures.

With over 40 years experience in designing and manufacture of industrial, military and specialist smoke systems Corona have unrivalled experience in the application of smoke.

Particle Size of Corona Smoke

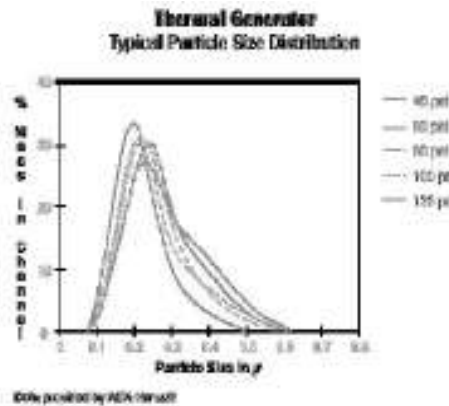
The machined heat exchanger block technology used within the Corona smoke generator range produces a smoke or fog particle an order of magnitude smaller than conventional smoke systems used in the special effects and entertainment industries.



This means that we can achieve the same level of obscuration (or same smoke density) using a fraction the amount of chemical used by other systems. What is more, the settling velocity of a 0.2 micron diameter (Corona typical) smoke particle of < 9mm/hr, compares to a velocity of 468mm/hr for a 2 micron diameter particle with the same unit density.

In functional terms, this means that smoke can be added to an environment for air tightness testing without the risk of deposition of fog particles occurring that would be associated with conventional smoke or fog systems.

Corona smoke has indeed been successfully used for testing the integrity of very sensitive environments, from containment areas to Boeing wide bodied aircraft



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Application Note
Smoke Testing and Air Tightness





Whole Building Tests ViCount 5000/180/2.2

Filling an entire building or structure with smoke and then pressurizing the building in accordance with recognized building standards is a straightforward process provided the correct type of smoke system is specified.

Generally, for this type of test, the ViCount Compact 5000/180/2.2kw smoke system is specified, as the smoke produced by this system has such tremendous persistency that huge volumes can be effectively smoke logged.

As an illustration of the persistency of ViCount smoke, literally kilometers of tunnels can be filled with smoke from a single ViCount. The number of smoke systems required and the time required to smoke log buildings of specified volumes can be estimated using the appropriate "[Large Volume Calculator](#)", available from Corona on request. An external inspection of the premises following pressurization rapidly establishes not only leak paths, but enables the scale of those leaks to be instantly assessed



Local Smoke Generation Colt 4 Turbo Basic

For smaller scale scenarios, where a controllable smoke may be used to highlight suspected leak paths and airflow patterns within a building, the Colt 4 Turbo Basic is recommended.

This unit has the ability to produce anything from a wisp to a large plume of artificial smoke on demand. It can also be used to produce a considerable quantity of smoke "off power" once preheated, allowing an operator very considerable versatility in its use.



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