

### **3M Targets Indoor Air**

In the development laboratory at 3M in St. Paul Minnesota (USA), John Horns, Technical Specialist, developed a test to measure the filter efficiency for fungi of industrial air handlers. The test can help determine Indoor Air Quality in office building.

Using the “DUO-SAS-360” microbial air sampler, he collected air from the upstream and downstream sides inside a fibreglass filter. With a large fan-like-blower, he simulated different air velocity from a minimum of 100 feet per minute to a maximum of 500 feet per minute.

Over a series of days he collected 20 samples set. With Malt Extract Agar plates in each head of the “DUO-SAS-360” air sampler, he ran a 500 litres air sample downstream in less than 3 minutes and a 100 litres air sample upstream in less than 30 seconds. “I chose the “DUO-SAS-360” air sampler because it was straightforward to use and the double heads saved testing time”, he said.

In each sample set, one plate was cultured at 25°C simulating the temperature outside the body and the other plate was cultured at 37°C simulating body temperature.

“The data of plates was the basis for our efficiency calculations”, Horns said. For example, if the upstream sample is 100 CFU’s, and the downstream sample is 50 CFU’s, the filter efficiency is fifty per cent. The test can be used to measure filter efficiency of air handlers used to cool, heat and move air in commercial space.

Reprinted from Bioscience World – The Newsletter of Bioscience International - Volume 7, N.1, Autumn 2005. Page 4.