

How good is the air in our working environment?



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On an almost daily basis, it seems that we are bombarded with information about how bad the air in our big cities really is. The message often communicated is that the environment is hazardous and that it has been proved that more people die on account of bad air than in traffic accidents. In periods of high concentrations of particles in the outside air, the number of people admitted to hospital with acute heart and long problems rises sharply.

The EU and the WHO have drawn up a set of regulations for air quality in outdoor and public environments. Since 2010, all EU Member States have been obliged to abide by these regulations. The limit value has been set to 50 µg/m³ of PM₁₀ size particles (i.e. particles up to 10 µm in diameter). This value must not be exceeded more than seven times per year. Measuring stations have been set up in most big cities in Europe to check particle concentrations continuously. It is often possible to track the concentrations in real time via the Internet. One of the graphics on the facing page is taken from the Net and presents particle concentrations on a central street

in a big city in Western Europe. Failure to comply with the requirements results in an obligation to implement measures to bring the concentrations down below the limit value. Failure to implement such measures leads to fines from the EU.

In many cases, however, it has proved difficult to reduce concentration levels to below the stated limits. Measures adopted to combat the issue include attempts to allow only cars with registration plates ending in odd or even numbers to drive in central Milan. In Stockholm, it is prohibited to use studded tyres on those streets with the highest particle concentration.

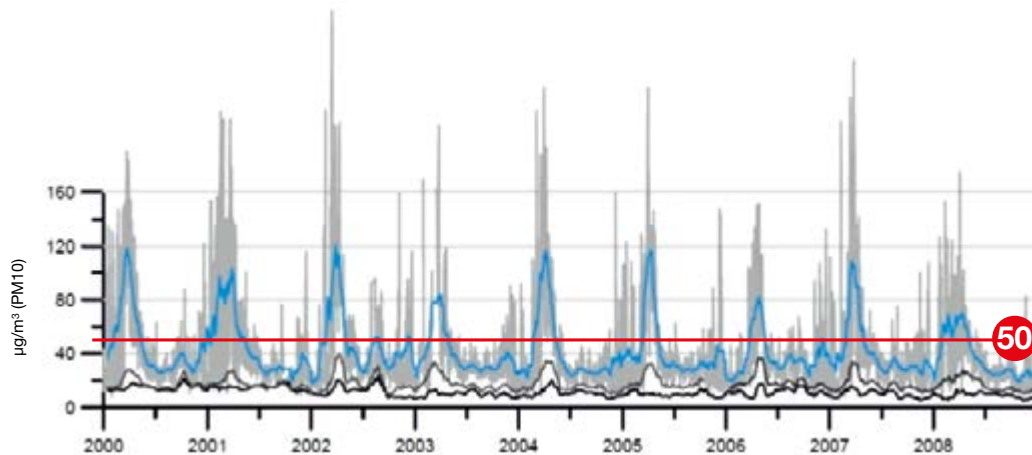
“In a normal warehouse environment, the particle content levels are – frighteningly – three times higher than the most heavily impacted street in a West European metropolis!”

One question that is being asked directly is: “What’s the situation indoors and at our workplaces? Generally speaking, you can say that the air in our homes is usually under the limit value – as long as we don’t live on one of the most severely affected streets.

In contrast, things look a lot worse at our workplaces. We at Zehnder have conducted tens of thousands of PM₁₀ measurements in most sectors. In most cases, the measurements show that the concentrations are a long way over the permitted values during the hours when work is carried out at the facilities. One of the graphs on the facing page illustrates a PM₁₀ measurement from a standard warehouse environment. Alarming, the concentrations shown here are three times higher than those in the most heavily affected street in a West European metropolis – despite the fact that a great deal of time and money is spent on cleaning.

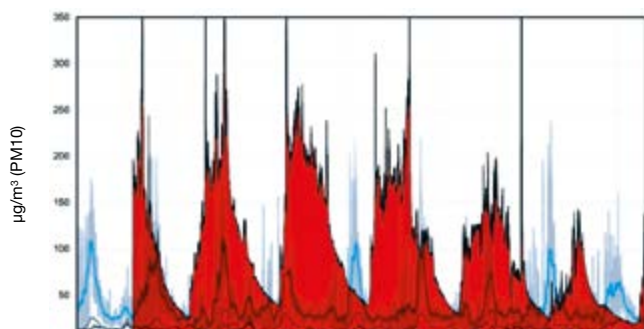
Our ambition is to change this and to work with our customers to create better working environments, where people feel better and where both they and their machines work to their full potential. Don’t wait around – let us help you improve your environment!

Measurement of air outdoors



The EU limit for breathable particles in outdoor air has been set at max. 50 micrograms per cubic metre.

Warehouse – before installation



Outdoor air in the background

Warehouse – after installation



EU Limit Values

In a directive from 1999, the EU has set limit values for breathable particles (PM). These values to be met in 2010 are:

- Mean day value: 50 micrograms per cubic metre; must not be exceeded more than seven times per year.
- Mean annual value: not to exceed 20 micrograms per cubic metre. This is an absolute requirement for outdoor air. Unfortunately, the levels in many working environments are much higher than this. As we Western Europeans spend the majority of our lives (>79%) indoors (at work, at home, etc.) this means that these environments almost certainly have a much bigger impact on our health. It is likely that the PM requirement will also apply to indoor environments in the future.

