

Stuttgart Neckartor Germany



The Stuttgart Neckartor, a busy through street in the capital of Baden-Württemberg, is one of the places in Germany most polluted by fine dust and harmful gases. Filter Cubes from MANN+HUMMEL have been in use here since October 2018 to effectively reduce the pollution on site.

The project, which is supported by the city of Stuttgart and the Baden-Württemberg Ministry of Transport, was initially launched as a pilot project to reduce fine dust. The measuring point located there had repeatedly exceeded the limit values for fine dust (number of times the PM10 daily mean value was exceeded). The pilot project was initially used to test how much fine dust pollution can be reduced on site by using the technology. The first analyses of the project showed a significant contribution of the Filter Cubes to the reduction of fine dust pollution. They decreased the particle concentration on site by 11 percent at the

official measuring station, which corresponds to a reduction of 10 to 30 percent in the person-relevant area, i.e. on the sidewalks and at the front of houses.

Confirmed by the positive intermediate data of fine dust filtration, the topic of reducing harmful gases has now been increasingly pursued and the filter elements have been replaced by technologically advanced combi filters. In addition to a filter layer for particles, the filters have additional activated carbon layers that adsorb NO₂ and O₃. Here, highly porous activated carbon media are used, which very effectively absorb the harmful gases due to their large surface area.



To accommodate the combined function, the Filter Cubes were technically optimized by increasing the air volume flow from 10,000 m³/h to 15,000 m³/h and increasing the filter area by three and a half times.

Since August 2019, 23 Filter Cube II and III filters have been contributing to the effective reduction of fine dust and NO₂ on a 250 m street section along the highly stressed through street.

Proof of effectiveness confirmed by independent institutes

The test of the reduction effect was carried out in scientific cooperation with the KIT (Karlsruhe Institute of Technology) and the LUBW (State Institute for the Environment Baden-Württemberg). This makes MANN+HUMMEL the first company on the market which has plants in commercial operation whose effectiveness has been confirmed by independent institutes.

