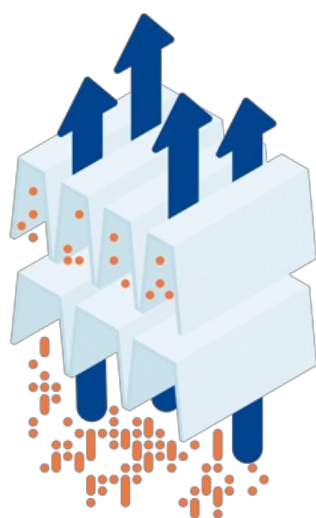


THE CHECKLIST FOR AIR PURIFIERS

What you should pay attention to before buying

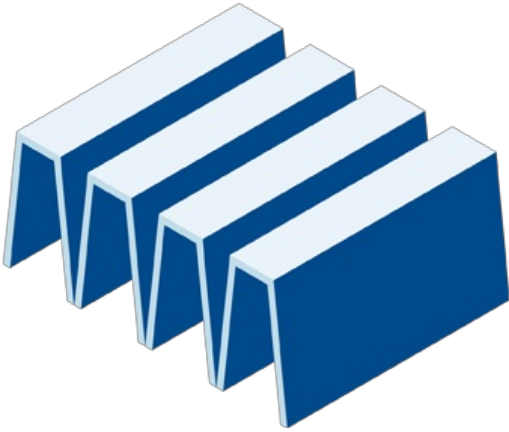
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WHY DO HEPA FILTERS REPRESENT THE STANDARD?



HEPA (High Efficiency Particulate Air) filters have been tried and tested for years. Their effect is described in internationally recognised standards. The test procedures are specified. The separation efficiency improves steadily during operation and, in fact, the function cannot fail because the filter is a kind of mechanical solid body. HEPA filters are significantly more energy efficient than other technologies. The TROX HEPA filter is made of materials that can easily be disposed of in domestic waste. It can be used for several years without any loss of effectiveness. VDI 6022 recommends only replacing the main filter after about two years for hygiene reasons. In many applications, however, HEPA filters are used for much longer.

H13 OR H14: WHICH FILTERS ARE BETTER?



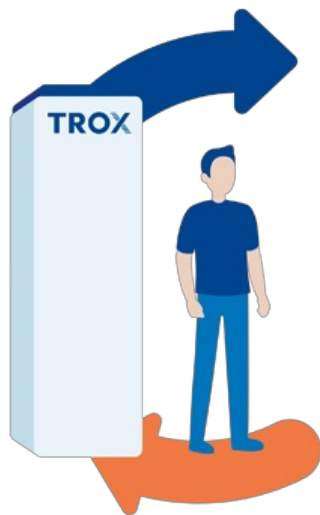
HEPA filters with filter class H13 are ideal for indoor air cleaning. They are used as standard in operating theatres or clean rooms (e.g. in micro-chip production) and reliably filter 99.95% of all virus-contaminated aerosols out of the indoor air, even at high air change rates. H14 filters achieve an efficiency of 99.995%, but also have almost twice the energy consumption of an H13 filter. Furthermore, H14 filters offer only a minimal advantage in normal, non-medical applications

HOW NOISY IS AN INDOOR AIR CLEANER?



Not all manufacturers provide sufficient information on the noise level of their unit. To provide meaningful information, the noise level must always be expressed as sound power or sound pressure. The sound pressure requires that the appropriate room attenuation should be included, this is room specific. In addition, noise data always depends on the air volume and varies greatly depending on the power level at which the unit is operating. Always make sure that the information on noise values and volume flow rate matches your requirements. In addition, check whether the unit is still quiet enough for your application when operated at higher output levels.

WHAT'S THE MATTER WITH SMALLER UNITS?

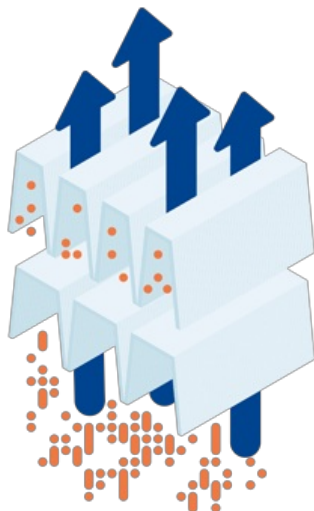


A smaller unit vents the cleaned air at body or head height. This creates a draught. If an infected person is in this airflow, viruses can spread via the cleaned airflow within the room. A further disadvantage: in compact ventilation units the individual components are installed in a smaller space. The filters have a smaller area and therefore need to be changed more often. It is also a feature of the design that the air change rate is lower. Compact air cleaners are therefore only really suitable for very small rooms. In most cases, adequate sound insulation is also lacking, so that the units can be very loud.

WHY NOT NEUTRALISE THE VIRUSES WITH UV RADIATION?

Some other manufacturers use technologies such as UV radiation to neutralise the viruses in the filter. Such processes have received only limited testing in normal applications. There are often no standard test procedures with which the effect on different particles can be evaluated. Depending on the technology, waste products can be generated that can be returned to the room by the air and may be harmful to humans. What is more, the function must always be monitored because UV luminaires, for example, have a much shorter service life than a HEPA filter. UV luminaires normally contain mercury and must be disposed of separately. The power consumption tends to be higher than that of a HEPA filter. In addition, UV light of the required intensity is harmful to humans. Appropriate safety precautions thus have to be taken in the design of the unit.

DO VIRUSES HAVE TO BE NEUTRALISED IN THE FILTER?



Viruses are safely trapped in the filter. Experts have found that the COVID-19 pathogen remains active on surfaces for a maximum of 4 days – even under ideal conditions for viruses. Just like on any other surface in the room. Touching the filter is therefore no more dangerous than using a door handle or tap lever.

In contrast to other manufacturers, we therefore avoid the unnecessary step of neutralising the viruses in the filter, e.g. by heating or UV radiation. Such processes consume additional energy. Moreover, their effect cannot be clearly demonstrated. Accordingly, no established association has issued any specifications for the use of such technologies in ventilation and air conditioning systems.

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