

## Fight against Covid-19

### **ebm-papst and MANN+HUMMEL develop a flexible air filter system in record time**

**In the fight against the virus, the American filtration experts from the MANN+HUMMEL subsidiary Tri-Dim joined forces with the fan specialists from ebm-papst in the USA. In record-breaking time, they developed the portable Tri-Kleen 500UV vacuum air filter system.**

When the first coronavirus wave reached the USA, Tri-Dim received numerous inquiries from clinics, health authorities and medical practices from all over the country for a flexibly applicable air filtration system. Such a product had to be supplied quickly.

#### **It all started with a Skype meeting**

The core idea was a transportable air filter system that creates a negative pressure in any closed treatment or examination room to prevent virus-contaminated air from overflowing into adjacent rooms. Business relations already existed between the German locations of MANN+HUMMEL and ebm-papst, so the choice was quickly made in favor of ebm-papst fans. The project began on a Saturday in March with a Skype meeting. In addition to the fan, the ebm-papst subsidiary in Farmington, CT, USA, would also supply the metal housing of the Tri-Kleen 500UV. The ebm-papst team worked hard: With the help of overtime and weekend work, they were able to deliver the first fans together with the metal housings within two weeks.

#### **Perfect interaction of fan and filter**

The volume flow for the necessary negative pressure in the treatment room is generated by the RadiCal centrifugal fan from ebm-papst. It is particularly low-noise and has an optional flange. This allows a flexible duct to be connected, through which the system discharges a larger air volume flow from the room than is supplied to it. Due to the resulting negative pressure difference, contaminated air cannot escape from the room. Both the supply and return air pass through the filtration system. The heart of the air cleaning system is a MERV 9 pre-filter and a cylindrical HEPA filter. This high-performance filter guarantees the separation of 99.97 percent of all particles with a size down to 0.3 µm with the aid of a micro-glass medium. The filtration effect is enhanced by combining the HEPA filter with a UV lamp, whose light kills germs, bacteria and viruses.

#### **Preparation for Europe**

In the meantime, almost 1,000 units of the air filtration system have been delivered, with more to follow. The feedback from customers is consistently positive. Currently the Tri-Kleen 500UV is only available on the US market, but first inquiries from Europe have already been received, preparations for the production of 230 Volt models are already underway. Although this will not stop the virus, it will help to contain it somewhat.

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Fig1: In record-breaking time, Tri-Dim and ebm-papst jointly developed the portable Tri-Kleen 500UV vacuum air filter system.



Fig 2: With the help of overtime and weekend work, the first fans together with the metal housings were delivered within two weeks.



Fig 3: In the air purifier, the RadiCal centrifugal fan from ebm-papst generates the volume flow for the necessary negative pressure in the treatment room.

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Figure 1      Tri-Dim  
Figure 2+3    ebm-papst  
Characters    approx. 2,800, with headings and subheadings  
Tags          Covid-19, air purifier, centrifugal fan, RadiCal, ebm-papst, MANN+HUMMEL, Virus  
Link          <https://www.ebmpapst.com>

### About Tri-Dim

Tri-Dim is one of the largest air filtration companies in North America, with around 800 employees. It is headquartered in Louisa, Virginia and has been a subsidiary of the MANN+HUMMEL Group since 2018. Tri-Dim offers a comprehensive portfolio of products and services for heating and air conditioning technology. These include air and liquid filtration, heating and air conditioning systems, clean room filtration, air purification systems, gas filtration, and solutions for measuring and improving indoor air quality.

### About ebm-papst

The ebm-papst Group, a family-owned company in Mulfingen, Germany, is the world market leader in fans and drives. Founded in 1963, the technology leader with its core competences motor technology, electronics and aerodynamics, has set international market standards ever since. With over 20,000 products, ebm-papst offers customized, energy-efficient and intelligent solutions for virtually any ventilation and drive technology requirements.

In fiscal year 2019/20, the hidden champion achieved a turnover of 2.188 billion euros and employed almost 15,000 people in 29 production sites (e.g. in Germany, China and the US) as well as in 48 sales locations. With their fan and drive solutions, ebm-papst defines and sets the benchmark in practically all industries, such as ventilation, air-conditioning and refrigeration, heating, automotive, IT, mechanical engineering, catering and household appliances, intralogistics and medical engineering.

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