



News Release

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NEW FROM KNORR BRAKE COMPANY: A COMPACT, PORTABLE
2-STAGE AIR FILTRATION AND PURIFICATION SYSTEM
TO SANITIZE THE AIR IN OFFICES AND INDOOR SPACES

Laboratory Testing Demonstrates the Portable System Is 99.99998% Effective at Removing and Killing Viruses, Including COVID-19, and Removes Bacteria, Pollutants, and Odors

WESTMINSTER, Md. – May 25, 2021 – As employees in the rail transportation sector resume on-site work at offices and facilities reopen to 100% capacity, managers have a new compact and portable solution to support healthy air quality indoors: Knorr Brake Company has launched the Merak[®] 2-Stage Air Filtration and Purification System, proven to be 99.99998% effective at removing and killing viruses, including COVID-19 and its variants, as it also kills and removes airborne bacteria, E-Coli, staph, odors, and other pollutants.

Testing from an independent ISO 17025 accredited laboratory found that the system's proprietary technology consistently and reliably eliminates 99.9% of airborne viruses and bacteria within five minutes, depending on total room size.

The newly launched 2-Stage Air Filtration and Purification System is configured by Merak North America, a division of KBC, and is engineered for use in office spaces, buildings and facilities to defend against airborne viruses, bacteria, and pollutants. The compact unit employs the same proven, powerful technologies as the company's patent-pending 3-Stage Air Filtration and Purification System, launched in June 2020 for use with rail transit HVAC systems.

"The 2-Stage System features advanced system design engineered to perform. The unit delivers the perfect pairing for transit authorities and other operators," said Jason Connell, Knorr Brake Company president and CEO. "While our powerful 3-Stage System helps protect riders

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on an authority's transit vehicles, the 2-Stage System offers the same proven protection for the personnel who propel their business. Whether it's in the offices, shops, cafeterias, or any common space where employees and guests work or gather, our systems are always on guard."

Connell continued, "As people return to the office amid changes in mask requirements and more, the need for increased air filtration and purification, like the 2-Stage System, is critical. Offering an indoor air solution as robust as the solution available for transit vehicles ensures peace of mind and ongoing protection for everyone."

How the Portable 2-Stage System Works

KBC's compact 2-Stage System provides constant filtration and purification to clean the air in rooms and spaces, resulting in up to 12 air changes per hour. While the system does not negate the need for employees and guests to adhere to local, state, and national health practices concerning face masks and PPE, it delivers an unparalleled level of air sanitization, helping to substantially reduce the risk of infection and transmission of airborne viruses and bacteria.

Laboratory testing showed the antimicrobial solution delivers the same level of protection against a broad array of live contaminants and pollutants, including H1N1 influenza, staph bacteria, black mold, natural bacteria, H3N2 influenza, total volatile organic compounds, cigarette odors, formaldehyde, toluene, acetaldehyde, small particulates, and more.

The system works with the use of two interlocking, lab-tested, and field-proven steps.

First, the Merak® Intense Field Dielectric filtration process provides an initial line of defense by actively filtering out large particles and electrostatically filtering out smaller particulates down to 23 nanometers in size.

Second, the Merak Dielectric Barrier Discharge technology uses bipolar ionization to purify the air, dispersing between 3.5 million to 5 million positive and negative oxygen ions per cubic centimeter to attack viruses, bacteria, and pollutants. These pollutants and contaminants, including exhaust fumes, smoke, and odors, are dissolved into water and carbon dioxide and removed.

Laboratory testing of the Merak 2-Stage System demonstrated it provides 99.99998% efficacy against aerosolized MS2 bacteriophage and up to 99.998% against E. coli. The small RNA virus is recognized by the U.S. Environmental Protection Agency as a representative virucidal screening tool for demonstrating efficacy against COVID-19. The MS2 virus is smaller than others, harder to capture, and requires significantly more radiation to inactivate.

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“Documented test results combined with ongoing testing definitively demonstrate that the Merak® 2-Stage Air Filtration and Purification System is effective not only against the continuing threat of the COVID-19 virus and its variants, but also against an array of other live viruses, pollutants, and even odors,” Connell said. “Neutralizing and removing these contaminants from indoor air is critical for the safe operation of facilities throughout the year. In deploying this system, facilities have the best air sanitation technology available in a portable and compact solution that’s easy to use and maintain.”

Multiple Capacity Options – Quiet and Economical to Operate in Any Environment

Three standard capacity-option models of the portable 2-Stage System are currently available to accommodate the needs of differently sized rooms and spaces. Facilities with specialized needs can also contact KBC to request an evaluation for a custom engineered unit.

The three standard models offer different air flow rates and capacities for various spaces and performance levels: The 1,800, 1,200, and 600 cubic feet per minute (CFM) air flow capacity models provide up to 12 air changes per hour for spaces up to 1,000 square feet, or two complete air exchanges per hour for a 6,000-square-foot room.

Multiple features built into each portable unit make the system especially useful and easy to incorporate into normal operations:

- An hour meter to monitor usage
- Lightweight design with locking caster wheels for ease in moving and placement
- Low noise and non-intrusive operation at approximately 54 decibels – similar to a quiet office or normal home ambient sound
- Minimal operating costs and low power consumption – similar to a typical floor or box fan
- Small footprint measuring approximately 18.5 inches wide by 31 inches tall by 12 inches deep

Besides being easy to use, the 2-Stage System is also easy to set up and maintain. To operate, simply plug the unit into any wall outlet and turn it on. The coated metal surface fits discreetly into building interiors as the unit works quietly to filter, purify, and recirculate the air. Each unit is equipped with locking caster wheels for maximum portability and can be moved around as needed. The system can also be adapted to meet a facility’s needs, and multiple

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units can be located within spaces or facilities to optimize air distribution and treatment and maximize protection for occupants.

Maintenance for the system is also fast and easy, as the unit requires only surface dusting and regular cleaning of its reusable filters. There is no need to replace the filters on each unit.

“The testing behind this portable system provides conclusive, scientifically backed data showing that its filtration and purification process works quickly and thoroughly to sanitize indoor air and protect against airborne transmission of viruses and bacteria,” Connell said. “This is the continuous level of protection that offices and facilities need as they reopen and return to full capacity.”

About Knorr Brake Company

Since 1973, Knorr Brake Company has been the innovative leader in supplying North American rail market customers, including light rail vehicles, metro, and high-speed trains. With its headquarters in Westminster, Maryland, the company operates sales and service facilities in Carmel, New York; and Union City, California. KBC’s subsidiaries – IFE North America LLC (passenger door systems) and Merak North America LLC (climate-control systems) – are co-located in Westminster. Knorr Brake Company is a member of the Munich, Germany-based Knorr-Bremse, the global market leader in braking systems and a leading supplier of other safety-critical rail and commercial vehicle systems. Contact Knorr Brake Company at knorrbrakecorp.com and follow us on LinkedIn at [linkedin.com/company/knorr-brake-company](https://www.linkedin.com/company/knorr-brake-company). To learn more about career opportunities at KBC, please visit www.kbnajobs.com.

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