

distributor fanmail

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Powerful, compact, quiet: RVE45

Designed to meet the high demands of industry.

NEW! Introducing ebm-papst's RVE45 DC Centrifugal fan

The next generation of our RV45 series, the RVE45 features the same dynamic air delivery in a similar compact footprint with the added benefit of built-in electronics. This new high performance series excels in rapid pressure changes and is ideal for a wide range of medical and industrial applications including ventilators, vacuum lifters, breathing masks, even filling bubble wrap! With more design freedom, greater efficiency, and significantly lower noise levels, the RVE45 is a powerhouse that is ready to work for you.



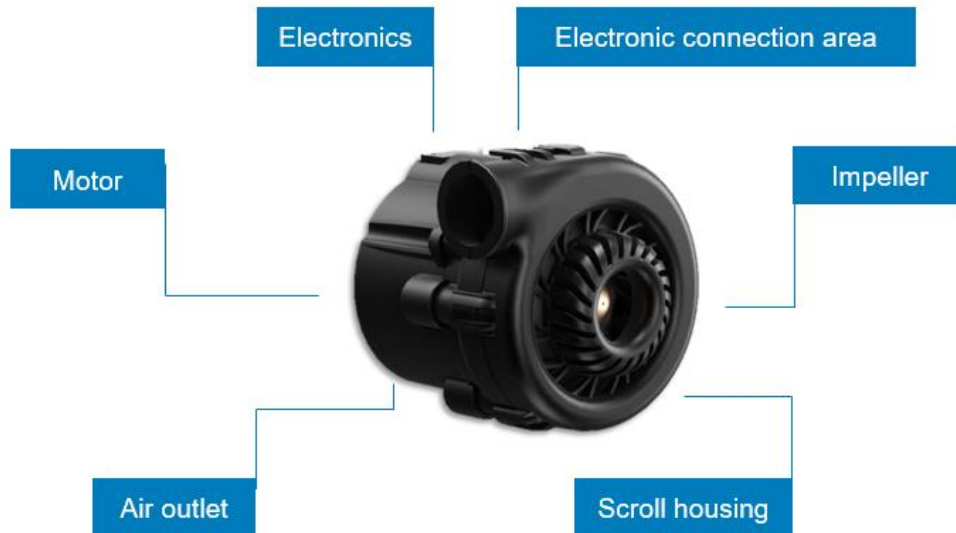
What the RVE45 has to offer, and more importantly, what *you* have to gain from it:

The RVE45's dynamic EC internal rotor motor easily adapts to rapid pressure changes, switching quickly and reliably between high and considerably reduced pressures. The high nominal speed of 38,000 rpm produces exactly the dynamic power required, which is also supported by the rotor's low moment of inertia. Active braking ensures a similar response at negative acceleration. Speed changes from 0 to 38,000 rpm to less than 500 ms are no problem for the RVE45. **For you, this means the air flow is always dosed exactly as required.**

Vibration-absorbing materials and an optimized aerodynamic design ensure that the RVE45 operates quietly, and thanks to maintenance-free ball bearings, it can continue to do so for many years. **For you, this means that your products work reliably long-term and at significantly lower noise levels.**

The rotor is intentionally light, which results in low power consumption at high dynamic performance. Speed control is possible with a PWM signal or analog voltage which reduces the energy consumption to exactly what is required. The fan can be monitored via a tach signal or alarm signal which proactively reduces downtimes (or even prevents them completely!). **For you, this means maximized efficiency. You can adjust the fan characteristics to your individual needs and environmental conditions by parameterizing them during the design-in phase.**

The space-saving motor design and special high-performance magnets make the RVE45 particularly compact and lightweight. **For you, this means more design freedom and smaller sizes for all of your applications.**



Electronics

- Plug and play due to integrated control electronics
- Speed control through a separate wire by means of PWM signal or analog voltage
- Output signals: Tach signal or alarm signal
- 4-wire interface

Motor

- Space-saving design for unrivaled compactness
- Special high-performance magnets
- Lightweight rotor for highly dynamic & efficient operation; acceleration up to 80 rev/ms
- Low noise levels at 58 dB(A)
- Minimal vibration due to dynamic balancing of the impeller-motor unit

Air Outlet

- Easy to connect with universal air outlet

Scroll Housing

- Robust design
- Mounting holes allow for simple screw attachment for simple installation

Impeller

- High static efficiency with aerodynamically optimized blade geometry
- Light fan impeller offers highly dynamic operation and low losses
- Optimal fan impeller inflow results in quiet operation
- Robust design capable of up to 38,000 rpm and extreme pressures
- Optional hose attachment for complex installation situations & flexible air supply

Target Markets

Medical

- Ventilators
- Sleep apnea devices (CPAP, BiPAP, etc.)
- Respiration / breathing equipment
- Emergency ventilation systems

Industrial

- Vacuum lifters
- Mobile extraction systems
- Packaging technology
- Fire alarm systems

Application examples

CPAPs / Ventilators: Assistive breathing devices are critical, life sustaining pieces of medical equipment that have to meet rigorous standards. The RVE45's extremely dynamic EC internal rotor motor supports flexible adaptation to breathing sequences, switching quickly and reliably between a high inflation pressure for inhalation and a considerably lower pressure for unobstructed exhalation. Vibration absorbing materials and ideal aerodynamics deliver quiet operation, and maintenance-free ball bearings ensure years of optimal operation, both vital characteristics for breathing equipment.

Vacuum Lifters: These devices require highly varied and changing pressures. High pressure is required when lifting and holding objects to generate a strong vacuum. When lowering goods, a rapid drop in pressure is necessary to guarantee that the item is released immediately. The dynamic nature of the RVE45 delivers the appropriate pressure at the right time for safe and reliable operation.

Breathing Masks: In production plants and other industrial locations, areas like paint shops require the use of a breathing mask to both protect against the inhalation of airborne contaminants as well as effectively remove exhaled air. The RVE45 is compact and lightweight, allowing for maximum comfort while ensuring proper oxygen supply. It can also be operated efficiently with a battery.

Alternating Pressure Mattresses: This prophylactic measure reduces the pressure on specific areas of the body when people are confined to their beds. The RVE45 inflates the air-filled chambers in the mattress, quietly changing the patient's position to help prevent bedsores without disturbing their sleep.

Bubble Wrap: Fragile items are often padded and protected using bubble wrap. Bubble wrap is produced on special packaging machines that inflate the individual air chambers with short, precise pressure surges. Overfilling can cause the chambers to burst while under filling will not offer the protection needed, so the RVE45 consistently produces the exact amount of air needed.