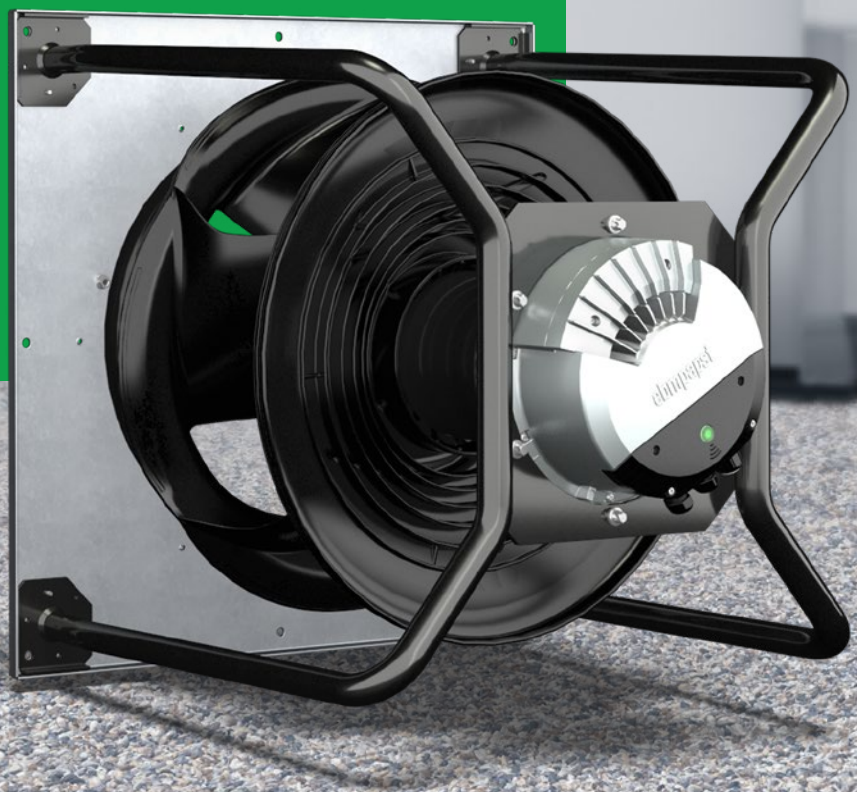
ebmpapst

engineering a better life

Whichever way you turn it: *It's the benchmark.*

The new RadiPac is turning ventilation technology on its head.



More power, more efficiency, *more wow!*

- Sizes 310 to 630 as a motor-impeller combination or ready-to-install plug & play support bracket in standard or compact short version
- Air flow up to 20,000 m³/h and pressures of more than 2,000 Pa
- Noise level reduction of 3 to 7 dB(A) compared with the previous series depending on the operating point
- GreenTech EC motors from 500 W to 8 kW
- Electronics with configurable control interface for analog and digital signals

Discover exciting additional information in this brochure.

1. Install Xplore app
Start and select "RadiPac" module.

2. Scan
Point camera at pages with the AR icon

Impossible?
There's no such word!

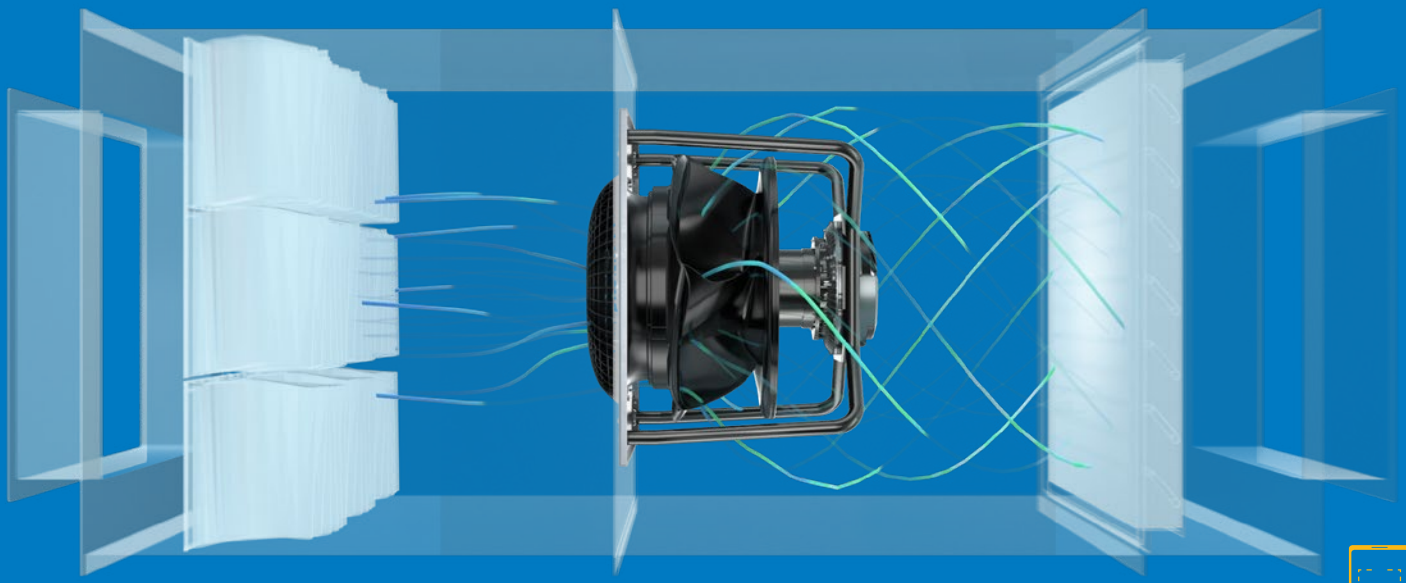
The requirements for ventilation and air conditioning devices are constantly increasing, especially when it comes to energy efficiency. This is due to increasingly strict legal requirements, but also to the growing environmental awareness of users and the possibility of saving energy costs, as rising energy prices are increasing cost pressure.

In AHUs, the fans are the largest power consumers. This potential for savings through more efficient technology is just as great.

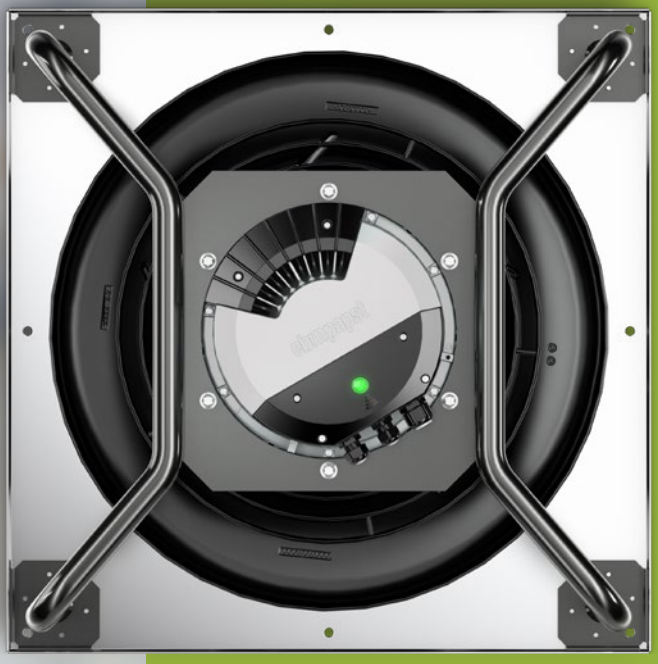
But there are other requirements: The fans need to be as quiet as possible, because noise is also an unwanted emission. They should also cover a broad power spectrum in order to have more power reserves. And, of course, IoT and intelligent data utilization are also playing an increasingly important role in ventilation technology. Despite this, the products should remain easy to use.

All of this poses major challenges for engineers. After all, any improvement in one area always means a compromise somewhere else. Can there be a fan that is impressive across the board?

ebm-papst provides the answer with the new RadiPac: Not only is it much more powerful than its predecessors, it is also especially energy-efficient, quiet, compact, and intelligent. Simply the benchmark, no matter how you spin it.



The new RadiPac: *only the best for ventilation technology.*



More air
with the same installation space
thanks to an innovative impeller and new GreenTech EC motors.

ebm-papst has been consistently developing the RadiPac product range for many years, both in aerodynamics and in EC motor technology. This was the only way to achieve this latest generation's huge increase in performance – without increasing the installation space. Indeed the opposite is true: the new fans are even more compact.

Reinventing the wheel again.
The newly developed impeller plays a major role in this increased efficiency. A high-strength, glass-fiber reinforced composite material was used, enabling the complex shape of the five spatially twisted and strength-optimized 3-D blades. Thanks to the rounded flow contour and the tapering profile of the blade outlet, flow losses have been drastically reduced and noise characteristics optimized. In addition, the wavy cover plate leads to an optimal air flow rate and thus remarkable air flows of up to 20,000 m^3/h. The sturdy material also enables high speeds and hence pressures of more than 2,000 Pa – over the entire temperature range.

The latest generation of EC motors.
The driving force behind the new RadiPac centrifugal fans are high-efficiency GreenTech EC motors in the power range from 500 W to 8 kW. The integrated EC motors with a proven external rotor design achieve efficiency levels in accordance with the requirements for efficiency class IE5 set out in IEC/TS 60034-30-2. And yet they do not require any rare earths and are also impressively compact thanks to the typical ebm-papst external rotor design.

More power
but not more power-hungry.

Technically, any increase in performance would have to come at the expense of power consumption. Not with the RadiPac: The combination of highly efficient EC motor technology, aerodynamic optimizations, innovative materials, and sophisticated design details ensure system efficiency levels of well over 70%. This means that equipment manufacturers will continue to meet the most stringent efficiency specifications and reduce energy costs for users.

More flexible control
without the complications.

AHUs are also getting smarter and smarter. Digital networking of the fans with their surroundings is a prerequisite for intelligent additional functions and flexible control options. The high-performance electronics provide everything required for this, such as a configurable control interface for analog and digital signals that can be individually adapted, as well as a serial MODBUS RTU interface. This enables operating data such as speed, power consumption or operating time to be read out and processed digitally, for example.

Resonance detection: standard with the new RadiPac.
A helpful and intelligent feature is included as standard for the first time with the new RadiPac: automatic resonance detection. The integrated vibration sensor measures mechanical vibrations and detects critical resonance points within the speed range. During initial commissioning, these vibrations are recorded and simply "run over" in normal operation later. This prevents premature bearing damage and thus system failures while increasing the fan's service life.

Benchmark down to the last detail.

Impeller

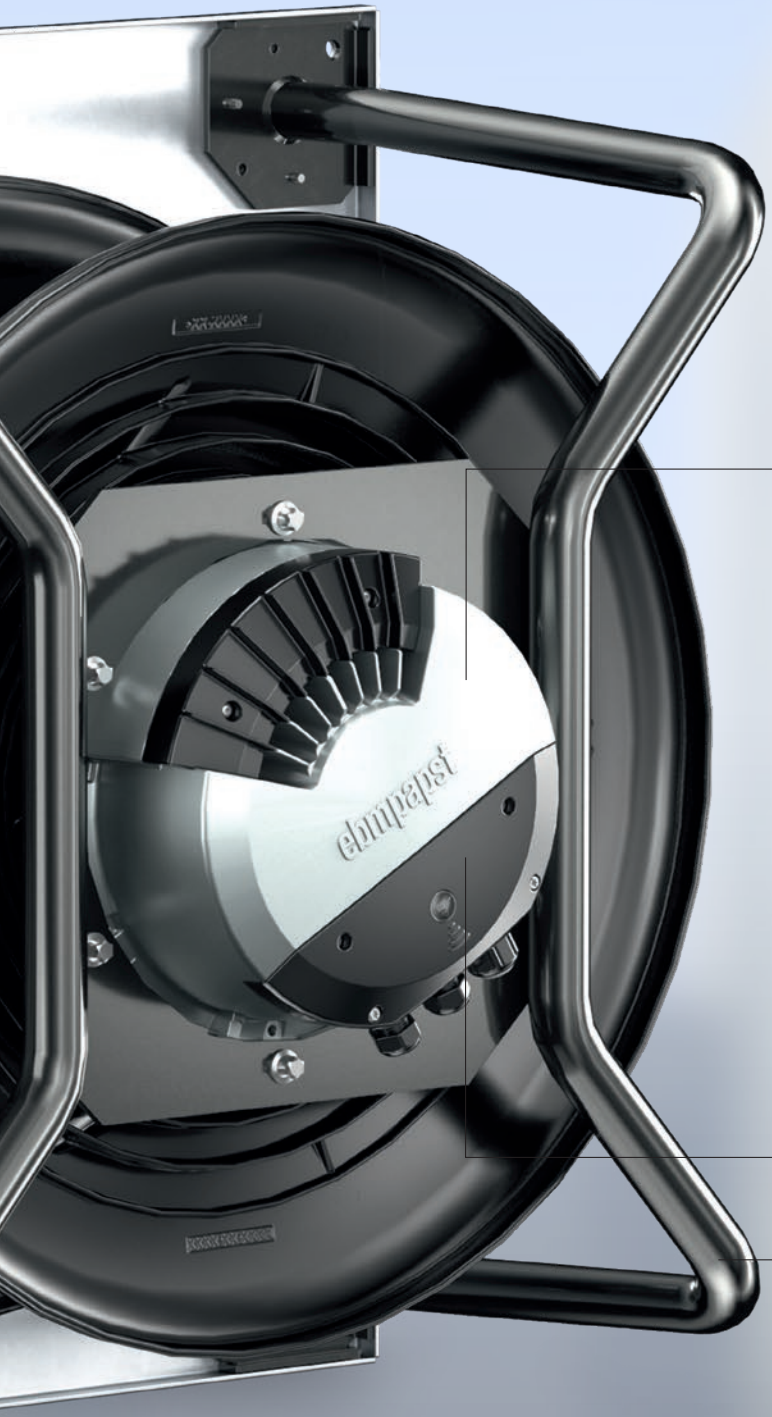
- **High static efficiency**
  - Innovative geometry reduces flow losses
  - Wavy cover plate for an optimal air flow rate
- **Low noise emissions**
  - Optimum outflow characteristics
- **Low vibration**
  - Dynamic balancing reduces bearing load
- **Robust design**
  - Glass-fiber reinforced composite material
  - Permanently high circumferential speeds

Inlet ring

- **Pre-installed**
  - Optimized factory positioning of nozzle
  - Pressure tap for air flow control standard
- **Low losses**
  - Optimized impeller inflow

FlowGrid

- **Reduced noise spectrum**
  - Low noise level
  - Dramatically dampened blade passing noise
  - Without loss of air performance and efficiency
- **Compact design**
  - Small footprint
  - Fewer insulation measures
- **Quick installation**
  - Through-holes for easy attachment
  - Customized attachments on request
- **Robust design**
  - Resistant composite material
- **Guard grill function**
  - Optionally as a closed version



GreenTech EC motor

Unbeatably compact
- Impeller directly on motor rotor

High efficiency
- Low copper and iron losses
- Synchronous running prevents slip losses
- No magnetic hysteresis losses

Economical operation
- Partial-load operation up to 1:10 at high efficiency

Long service life
- Maintenance-free bearings
- Brushless commutation

Safe operation
- Insulated bearing system

Electronics and connection area

Adaptable
- Configurable control interface
- Control signal 0–10 VDC and MODBUS-RTU
- Infinitely variable speed adjustment

Universally deployable
- Suitable for use with 50 and 60 Hz networks

Increased operational reliability
- Integrated resonance detection
- Integrated locked-rotor and thermal overload protection
- Environment-resistant cable glands

Simple commissioning
- Central terminal area separated from electronics
- No programming effort

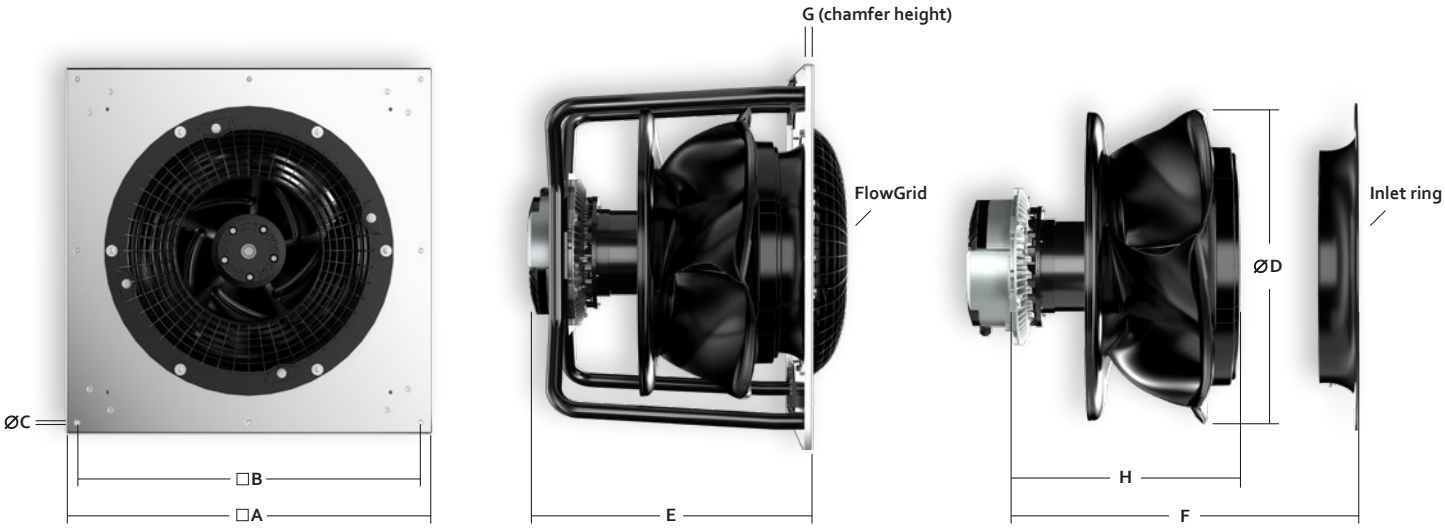
Support plate/support bracket

Robust sheet metal design
- Sendzimir galvanized sheet steel

Easy installation in AHU
- Complete, ready-to-install system
- Compactness enables new design flexibility

Smasher of standards **with standard dimensions.**

The new RadiPac does a lot of things better. In order to suit every installation situation, the centrifugal fans come in a variety of designs – the choice is yours.



Dimensions

Size	□A	□B	ØC	ØD	E*	F	G	H	Inlet ring Order number	FlowGrid Order number
310	390	340	11	325	380	314	15	281	8217102242	25310-2-2957
355	450	400	11	364	396	330	15	292	8217102240	00400-2-2957
400	500	450	11	409	445	354	15	313	8217102241	00400-2-2957
450	560	510	11	458	493	402	15	362	8217102239	35505-2-2957
500	590	540	11	514	550	461	15	414	8217102238	35505-2-2957
560	710	660	11	577	571	481	15	430	8217102237	50710-2-2957
630	790	740	11	647	601	511	15	455	8217102236	00630-2-2957

* with no protrusion of the screws
Data refers to the most powerful version.
All dimensions in mm. Data sheets available on request. No responsibility is accepted for the accuracy of this information.

Short or standard?
In the standard version, the motor is completely pulled out of the flow area. In the short version, the motor is immersed in the impeller. This makes the fans more compact, but still offers a significant increase in performance compared to previous models.

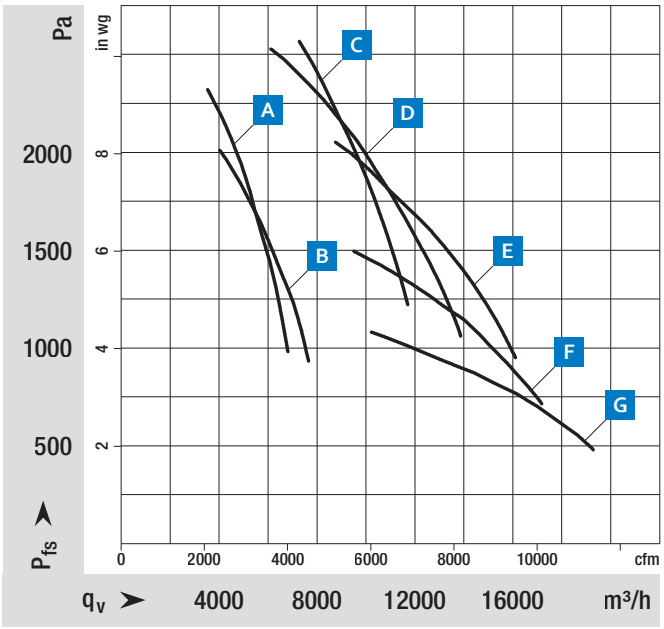
With or without support bracket?
Both RadiPac versions are available as a motor-impeller combination or as a ready-to-install plug & play solution in a compact support bracket for easy wall mounting. The support plates are dimensioned to make the best possible use of space on a Euro pallet. This saves transport costs and improves the CO_2 footprint.

Simple fan replacement
Due to rising energy costs and increasingly important environmental considerations, it often pays to replace old fans, because the new RadiPac saves costs and resources in the long term. Thanks to its power density, retrofitting with the new RadiPac is possible without complex design changes.

Power brought to the operating point.

The data shown is based on real performance measurements carried out on state-of-the-art chamber test rigs. The entire fan unit, consisting of motor, control electronics, and impeller, is measured at varying load states. This ensures that we obtain reliable data, and that you can count on these values being reached when selecting a fan. So, there will be no nasty surprises when the fans are started up.

The measured data forms the basis for the FanScout design program, which is available on request. This software can be used to calculate what operating costs are to be expected or to perform lifecycle cost analyses.



The chart shows the maximum air performance per size.

Nominal data

Size		K module type	Order number K module	Max. motor	Nominal voltage range	Frequency	Speed	Max. power consumption	Max. input current	Permissible ambient temperature
					V AC	Hz	min^{-1}	kW	A	°C
310	A	VBH0310CTRLS	8300100104	M3G112GA	3~ 380-480	50/60	4560	2.7	4.3	–25 to +40
355	B	VBH0355CTRLS	8300100087	M3G112GA	3~ 380-480	50/60	3800	2.7	4.2	–25 to +40
400	C	VBH0400CTTLS	8300100128	M3G150FF	3~ 380-480	50/60	3690	4.5	6.8	–25 to +40
450	D	VBH0450CTTPS	8300100075	M3G150IF	3~ 380-480	50/60	3430	6.5	10.7	–25 to +40
500	E	VBH0500CTTRS	8300100068	M3G150NA	3~ 380-480	50/60	2840	6.3	10.5	–25 to +40
560	F	VBH0560CTTRS	8300100101	M3G150NA	3~ 380-480	50/60	2300	6.5	10.2	–25 to +40
630	G	VBH0630CTTRS	8300100048	M3G150NA	3~ 380-480	50/60	1910	5.8	9.1	–25 to +40

Data refers to the most powerful version.
Data sheets available on request. Subject to technical changes.

GreenIntelligence.
Making Engineers Happy.

Why do our customers look so happy? Because when it comes to digitalization and sustainability, we provide them with a clear competitive edge with GreenIntelligence. The intelligent control and networking of fans and drives makes applications more powerful and efficient. Together with a long product life and highly efficient EC technology, we achieve lasting reductions in energy costs and emissions.

For **industrial ventilation technology,** solutions are in demand that ensure top performance and operational reliability in every situation. GreenIntelligence gives you robust fan solutions with intelligent networking capabilities that provide reliable performance data and extensive control and monitoring functions. They ensure high levels of efficiency and system availability while guaranteeing maximum data security.

With our **comprehensive range of services,** we accompany you and your projects through every step in the process, from your application's planning to its deployment. Make use of our experts' product expertise to offer your customers new and advanced features. Or use our digital tools for optimal product selection. That will make your processes more efficient and get your products to market faster.

Now you know why ebm-papst makes engineers happy.

There is a lot of GreenIntelligence in the RadiPac:

All required hardware and software components from a single supplier:
- Motor temperature and ambient temperature monitoring
- Precise adjustment of air flow and operating point
- Control and monitoring via MODBUS RTU and/or 0– 10 V / PWM
- Fan acts as a sensor
- Automatic status monitoring and resonance analysis
- Warning and/or shutdown in the event of continuous imbalance

Pablo improves the performance of his ventilation systems even when they are already in operation.

About ebm-papst.

As the leading supplier of ventilation and drive technology, ebm-papst is a highly respected engineering partner in many industries. With around 20,000 different products, we provide the right solution for just about any requirement. As the logical next stage in the development of our high-efficiency GreenTech EC technology, we believe that industrial digitization offers the greatest future prospects for our customers.

With GreenIntelligence, ebm-papst already offers intelligently interconnected complete solutions that are second to none around the world.

We are there for you!

Let's find out how ebm-papst can work with you to make your company and your solutions even better. We look forward to it.

E-mail: info1@de.ebmpapst.com

ebmpapst

engineering a better life

Six reasons why we are your ideal partner:

1. **Our systems expertise.**
As experts in advanced motor technology, electronics and aerodynamics, we provide ideal system solutions from a single source.

2. **ebm-papst's spirit of invention.**
Our 600 engineers and technicians will develop a solution that precisely fits your needs.

3. **Our cutting-edge technology.**
With our EC technology and GreenIntelligence, we unite top energy efficiency with the benefits offered by the IoT and digital connectivity.

4. **Proximity to our customers.**
Thanks to numerous sales offices worldwide.

5. **Our quality standards.**
Our quality management is uncompromising – at every step of the process.

6. **Sustainability as a way of life.**
We take responsibility with our energy-saving products, environmentally friendly processes, and social commitment.

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