

The full spectrum *of ventilation and drive engineering.*

Product overview.

ebm**papst**

the engineer's choice



ebm-papst Xplore:

Discover augmented reality and
interactive additional information.



About ebm-papst.

ebm-papst is a leader in ventilation and drive engineering technology and a much sought-after engineering partner in many industries. With around 20,000 different products, we have the perfect solution for practically every requirement. We have placed the highest emphasis on economy and ecology for many years.

We believe the consistent further development of our highly-efficient GreenTech EC technology provides our customers with the best opportunities for the future in industrial digitization. With GreenIntelligence, ebm-papst already offers intelligent networked complete solutions that are unique anywhere in the world today and that secure our customers a decisive advantage.

The logo for ebm-papst, with 'ebm' in black and 'papst' in blue.

the engineer's choice

Six reasons that make us the ideal partner:

Our systems expertise.

You want the best solution for every project. The entire ventilation system must thus be considered as a whole. And that's what we do – with **motor technology** that sets standards, sophisticated **electronics** and **aerodynamic** designs – all from a single source and perfectly matched.

Our spirit of invention.

We are also always able to develop customized solutions for you with our versatile team of over 600 engineers and technicians.

Our lead in technology.

We are not only pioneers and trailblazers in the development of highly efficient EC technology, we also recognized the opportunities of digitization at an early stage. Therefore, we can offer solutions today that combine the highest energy efficiency with the advantages of IoT and digital networking.

Closeness to our customers.

ebm-papst has 25 production locations worldwide (including facilities in Germany, China and the USA), together with 49 sales offices, each of which has a dense network of sales representatives. You will always have a local contact, someone who speaks your language and knows your market.

Our standard of quality.

Our quality management is uncompromising, at every step in every process. This is underscored by our certification according to international standards including DIN EN ISO 9001, TS declaration of conformity and DIN EN ISO 14001.

Our sustainable approach.

Assuming responsibility for the environment, for our employees and for society is an integral part of our corporate philosophy. We develop products with an eye to maximum environmental compatibility, in particular resource-preserving production methods. We promote environmental awareness among our young staff and are actively involved in sports, culture and education. That's what makes us a leading company – and an ideal partner for you.

The story of our success as market and technology leader.

| | | |
|-------------|---|-------------|
| 1963 | Establishment of Elektrobau Mulfingen GmbH & Co. KG by Gerhard Sturm and Heinz Ziehl. | |
| | Development of the first tubeaxial fan featuring EC/DC technology . | 1965 |
| | The new 68 motor gives momentum to the ebm-papst success story. | 1966 |
| | Production of the first electronically commutated DC external rotor motor. | 1972 |
| | Introduction of the first gas blower with EC technology . | 1991 |
| 1992 | Takeover of PAPST Motoren GmbH in St. Georgen. | |
| 1997 | The Alcatel SEL AG motor and fan plant in Landshut becomes part of the Group. | |
| | Development of the first fans with integrated electronics . | 1998 |
| 2003 | Re-naming of the three brands ebm, PAPST and mvl to become ebm-papst. | |
| | Development of business into system supplier for gas heating and condensing technology. | 2008 |
| | Introduction of GreenTech , the symbol of energy efficiency and resource preservation. | 2010 |
| | RadiCal defines a new standard for EC centrifugal fans. | 2011 |
| 2013 | 50 years of ebm-papst. ebmpapst takes over the transmission specialists Zeitlauf . | |
| | Development of the S-Panther® with high air volume and low noise level. | 2014 |
| | RadiPac pushes the efficiency limits even higher. | 2015 |
| | AxiBlade sets new standards in ventilation, refrigeration and air conditioning technology. | 2016 |
| | Introduction of the RadiMix® with maximum air delivery and minimum space requirements. | 2018 |
| 2018 | A record turnover of more than 2.0 billion euros for the worldwide Group. | |
| | ECI-42 – a modular system for individual drive solutions. | 2019 |



Three core competencies, *unique synergy effects.*

An excellent system solution needs three things.

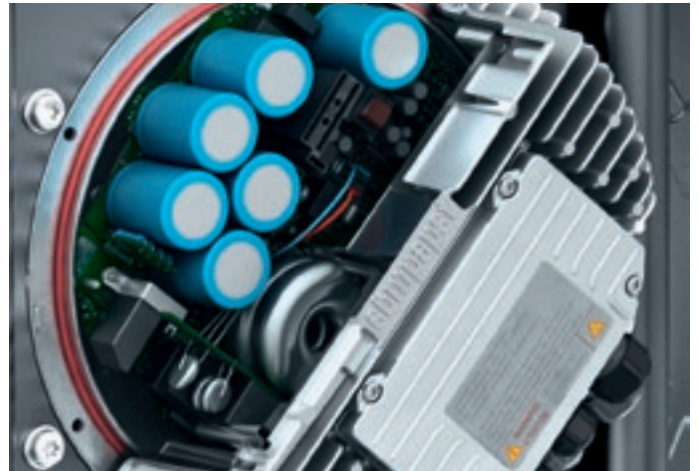
Innovative motor technology:

Our external rotor motor has long since become the favorite choice of experts – quiet-running, powerful and constantly evolving, it has made us into the world market leader. With its remarkable capacity for integration it is suitable for a wide variety of applications, both in the form of a customized drive solution together with transmission, sensors and operating electronics and as the efficient heart of our fans and pumps. It is ideally complemented by our internal rotor motors for dynamic applications or for conveying particularly aggressive air flows. Together they form the basis for a worldwide unique range of fan and motor models.



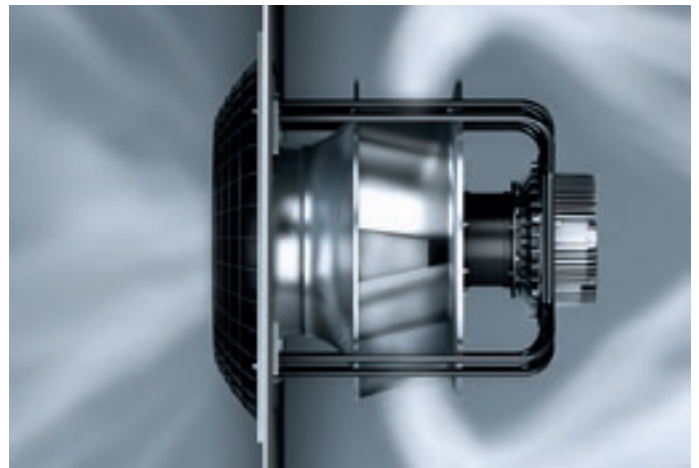
Intelligent electronics:

The brain behind any modern system solution. The control action provided by the electronics ensures the perfect coordination of drive technology and aerodynamics required to implement complex automation solutions. ebm-papst supplies not just the hardware for this, but the intelligent control software as well. So our customers receive smart, interconnected end products all from the same mold – for precise electronics cooling, energy-saving heating systems, and full building automation. All in keeping with the principles of GreenIntelligence – the next level of Green.



Smart aerodynamics:

An optimum shape is crucial to all axial and centrifugal fans, centrifugal blowers, tubeaxial fans and tangential blowers. Which is why we always design fan blades, impellers and housings to suit the conditions of the particular application. Only in this way can we obtain the maximum possible efficiency with maximum noise reduction. To put it in a nutshell: Aerodynamics in perfection.



It is in your own hands: **With our digital helpers.**

FanScout: The ideal fan solution is just a click away.

We want to offer our customers the perfect answer to every challenge. Our selection software allows you to quickly find the best fan to suit your requirements and makes it possible to display and alter the operating characteristics, as well as documenting the technical data. Factors such as air performance, operating time and installation space are taken into account in this process. A practical advantage: The software can be easily integrated into your device configuration program using the DLL interface.

Once you have found the appropriate fan, you can directly calculate its life cycle costs – with all the relevant aspects such as operation, purchasing, installation and even including servicing. The program is also capable of performing calculations for FanGrid solutions with multiple fans operating in parallel.

Important for dependable planning: As our software is based on real measured values, the data provided by the FanScout will always be absolutely reliable and above all extremely accurate. TÜV SÜD has confirmed this by allocating the software to the highest calculation accuracy class.

The best part:

ebm-papst pre-selects the products that are suitable for you. This saves you the bother of searching through our extensive range, so you can get going with the configuration of your application straight away.



Test the FanScout –
download here:
ebmpapst.com/fanscout

**Online portal for drive engineering:
Configure your drive solution online.**

A drive solution perfectly geared to your requirements – without excessive development costs? A real option thanks to the modular system from ebm-papst! And that's not all: You can even put your drive unit together yourself – simply and with just a few clicks online: in our IDT configurator.

There you can choose between various motors, transmissions and electronics, right through to brakes and sensors. All the necessary information is available for every component, including specifications, characteristic curves and 3D models etc. So you can assemble exactly the drive unit you want quickly and conveniently – and, as a special feature, study it from all sides in a 360° view.

The best part:

You can start with your configuration straight away – without the need for login and of course free of charge. Simply go to idt-config.ebmpapst.com



Xplore: The whole world of ebm-papst in an app.

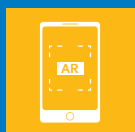
Download the digital world of ebm-papst onto your smartphone or tablet. Our ebm-papst Xplore app combines compact information with fascinating applications. It provides a whole new outlook on our products and technical components:

- AR content and interactive additional information for product brochures
- Selected product brochures as PDF downloads
- Virtual experience when visiting trade shows



1. Activate the module

Go into the ebm-papst Xplore app and select the "Product overview" module.



2. Scan the images

Aim the camera at the images marked with this icon, and away you go.

The best part:

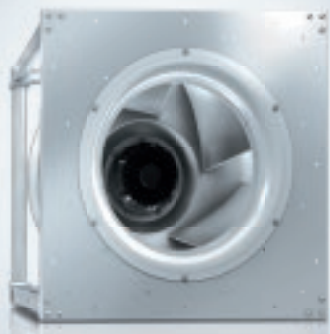
The app is constructed like a huge building kit. You can decide for yourself which modules you want to install or quite simply delete them again. Why not just try it out – simply download from the App Store or Play Store.



Bring this brochure to life – with the ebm-papst "Xplore" app and augmented reality.

Fans and drives *for every challenge.*

Whatever you want to drive, ventilate, cool, heat or air condition, you are sure to find the right solution amongst our roughly 20,000 different products.



Centrifugal fans



Gas blowers



Hot-air blowers



the engineer's choice

Axial fans



Pumps



Tangential blowers



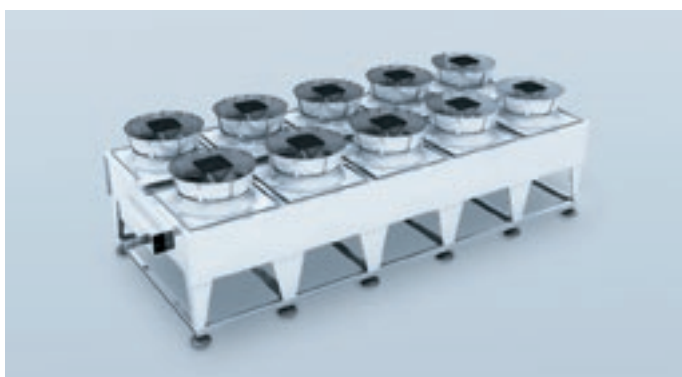
Motors and drive systems



Fans



Axial fans.



The truly space-saving axial fans from ebm-papst are used to exchange hot and cold air in all sorts of devices and systems. Their outstanding features include a shallow installation depth, a low noise level and excellent efficiency, making them particularly suitable for conveying air through heat exchangers.

One principle, endless possibilities.

With axial fans, which function similarly to a propeller, the air is conveyed in axial direction in parallel with the rotating motor shaft. The ebm-papst external rotor motor is integrated directly into the axial impeller, thus forming a compact axial fan unit. For mounting, use is generally made of fan housings in short or long nozzles.

Smart networking.

The combination of our GreenTech EC technology, intelligent sensors and control electronics turns the fans into smart solutions for all purposes. Condition monitoring, low-cost remote maintenance or automatic speed adjustment with increasing contamination: We can supply all you need for your individual "GreenIntelligence" solution in a single package.

HyBlade® with innovative hybrid material structure.

The aluminum core of the HyBlade® ensures great stability, while the glass fiber-reinforced plastic covering permits total versatility with regard to blade design. This allows far higher levels of aerodynamic efficiency than with metal blades, coupled with minimum weight, considerable noise reduction and – when combined with our GreenTech EC motors – maximum energy efficiency.

AxiCool: Our specialist for cooling.

The AxiCool product range was designed specially for use in evaporators and air coolers. It features an excellent air throw, easy handling, maximum reliability, and economical operation. Great emphasis was also placed on hygiene and product protection. And so these fans provide ideal cold store conditions to keep products fresh for a long time.

AxiTop: The super-quiet power pack.

Our AxiTop diffuser greatly enhances efficiency whilst at the same time reducing running noise. It transforms much of the dynamic kinetic energy into static pressure in the process. This makes it possible to reduce the speed and thus lower the noise level by up to 7.2 dB(A), in addition to cutting energy consumption by as much as 27%. Retrofitting is possible in existing installations without the need for any re-design.

The facts at a glance:

- Compact dimensions
- Choice of GreenTech EC technology or AC technology
- Many different designs, sizes and air performance levels
- Optimum efficiency levels and noise development thanks to the sophisticated aerodynamic design of the fan blades
- Highly efficient, energy-saving versions with GreenTech EC technology and standardized integration of control functions and sensor signals
- Wide range of guard grills, basket guard grills and fan housings as accessories
- Axial fans are dynamically balanced on two planes in accordance with DIN ISO 1940
- Numerous approvals including VDE, UL, CSA, CCC and EAC
- Areas of application: Ventilation, refrigeration, air conditioning, automotive industry, wind power plants and the machinery/equipment industry

Technical values

| | |
|-------------------|-----------------------------------|
| Voltage | 85–480 VAC, 50/60 Hz 5–110 VDC |
| Air flow quantity | 1–65,000 m³/h |
| Power consumption | 1–12,000 W |
| Applications | up to 450 Pa |





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Axial fans – best example: *AxiBlade*.

With the new AxiBlade, ebm-papst has developed a system ideally designed to satisfy the requirements of air conditioning and refrigeration installations. The optimization of all efficiency-related components together with maximum configuration flexibility turns highly efficient fans into “Your ebm-papst solution”.

The dimensions of the base area correspond exactly to the current industry standard, so virtually no design changes are necessary on the end device. All components have been optimized for maximum system performance. The results are a static efficiency of up to 54% and up to 8 dB(A) lower noise emissions in relation to the HyBlade® product range.

To satisfy the requirements of differently designed heat exchangers even better, we have performed detailed analysis of the applications for which the fans are used on the market. Our solution is a modular concept that provides maximum flexibility to allow fan operation as closely as possible to the ideal state in typical operating ranges.

More information can be found at www.ebmpapst.com/axiblade



Centrifugal fans.



Centrifugal fans from ebm-papst are available with forward- and backward-curved blades. The fans with forward-curved blades are also supplied with a scroll housing, whereas the backward-curved versions are designed as freewheel fans. In the case of external rotor motors, the motor is positioned in the impeller, ensuring not just optimum cooling, but also a particularly compact design. The entire range is available with both AC and GreenTech EC technology. In addition to being particularly energy-saving, the integrated electronics also make it possible to implement any control, monitoring and maintenance functions – for both the smart home and Industry 4.0.

Less noise, higher performance.

The characteristic features of our centrifugal fans with forward-curved blades are their minimal noise generation and a high power density. They are employed wherever there is a need to move large volumes of air in a confined space. Depending on the aerodynamic and geometric requirements, the impellers are in single or dual inlet arrangement.

Compact, but full of power.

The PlugFan series for applications in the medium pressure range is available in sizes from 250 to 900 mm with a drive power of up to 12 kW. All RadiPacs are equipped with GreenTech EC motors and already surpass the minimum requirements of the ecodesign regulation for fans. The name "RadiPac" comes from "packaged". This means that all functions are already integrated. So all the fans in this product range can be actuated as standard with MODBUS and 0–10 V.

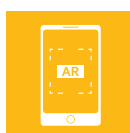
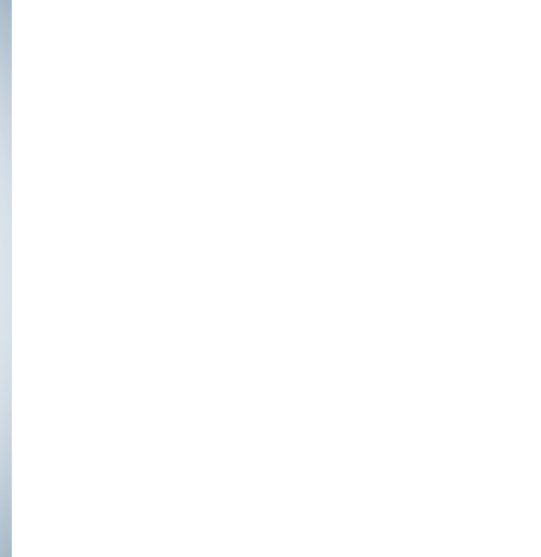
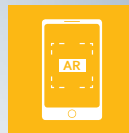
As of size 630 the mechanical structure is of cube design. The tried-and-tested "support bracket" is available for sizes up to 560. In addition, a floor-mounted version can be ordered for all sizes. This makes RadiPac fans suitable for use not just in the air conditioning and ventilation industries, but for many other applications as well.

The facts at a glance:

- AC and EC centrifugal fans with forward-curved blades
- "RadiCal" AC and EC low-pressure fans
- "RadiCal" EC system solution in scroll housing
- "RadiPac" and "RadiFit" EC medium-pressure fans
- Compact design thanks to external rotor motor technology
- Comprehensive product ranges for every application
- 100% speed control via analog or serial interface
- High efficiency through the use of GreenTech EC technology
- Quiet operation thanks to optimized flow control and sophisticated EC motor commutation
- Start-up made easy by perfectly coordinated components:
Control system/motor/fan
- Extensive accessories

Technical values

| | |
|-------------------|--|
| Voltage | 85–480 VAC, 50/60 Hz 12, 24, 48 and 110 VDC |
| Air flow quantity | 1–30,000 m³/h |
| Power consumption | 1–12,000 W |
| Applications | up to 2,800 Pa |





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Centrifugal fans – best example: *RadiCal*.

Each new product must surpass its predecessor economically and ecologically. In keeping with this philosophy we have constantly optimized our popular RadiCal centrifugal fan over the course of the years. As a result, today's version offers maximum efficiency with the same installation dimensions as a conventional AC fan. The special impeller design also enables the RadiCal to achieve a far higher speed for an even greater power density. The reduced-loss flow through the impeller additionally results in less turbulence and thus pleasant noise characteristics. What's more, the RadiCal sets distinct standards in terms of environmental compatibility, service life and recyclability.

Designed to protect data.

Precision air conditioning units in large data centers are the most important area of application for the RadiCal. Because it has been specially optimized to efficiently convey air through such devices in continuous operation. With the same compact size, it delivers significantly higher air performance than all its predecessors, permitting optimum use of the limited space available in precision air conditioning units – with considerably better efficiency and acoustics. The great energy savings achieved guarantee a very quick return on the costs of retrofitting.

RadiCal fans are available in different sizes with various power ratings – on request also as ready-to-install modules.



Fans.

Axial, centrifugal or diagonal – but always leading the way.

Fans from ebm-papst have been setting standards in electronics cooling for decades now and are available in 3 different designs:

Our **axial fans** are suitable for high air performance with medium pressure increase. The flow of air through the fan blades is in parallel with the axis of rotation. Thanks to space-saving integration of the motor they are of extremely shallow design.

The **centrifugal fans** from ebm-papst are the undisputed high-pressure specialists with 90° air deflection and aerodynamically optimized impellers.

Our **diagonal fans** feature diagonal outflow. This achieves greater compression of the air – for a higher air flow rate with high pressure increase. It means they are particularly suitable for applications involving intensive cooling with a high component concentration.

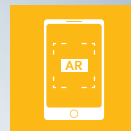
For every type, ebm-papst can offer a wide range of fans, optionally in AC, DC or GreenTech EC design, for all voltages and in all standard sizes. Coming complete with installed electronics, they also feature many additional functions and can be intelligently networked with the corresponding equipment logic.

The facts at a glance:

- Space-saving installation thanks to compact, shallow design
- Wide range of sizes and installation depths
- Optionally available in AC or energy-saving, efficient DC technology
- New ACmaxx generation in GreenTech EC technology with extremely high energy savings and longer service life than conventional AC fans
- Efficient, in some cases multi-pole and 3-phase drives
- Modern fan impellers with winglets and sickle-shaped blades for low noise and high efficiency
- Great reliability and a long service life
- A whole range of monitoring and control functions permit customized, demand-based fan operation
- Various protection mechanisms guard against ambient influences such as dust, moisture, water and salt
- Safety is included: Approvals in accordance with VDE, UL, CSA, EAC and CCC
- Areas of application: Telecommunications, decentralized home ventilation, switch cabinet cooling, variable frequency drives, solar inverters, medical technology, household appliances, automotive technology, and more

Technical values

| | Axial fan | Diagonal fan | Centrifugal fan |
|-------------------|----------------------|------------------|-----------------------|
| Voltage | 5–75 VDC, 11–440 VAC | 9–72 VDC | 6–72 VDC, 103–264 VAC |
| Air flow quantity | up to 1,220 m³/h | up to 1,100 m³/h | up to 1,600 m³/h |
| Power consumption | 0.1–275 W | 19–360 W | 1–190 W |
| Applications | up to 1,500 Pa | up to 1,500 Pa | up to 5,200 Pa |



Fans – best example: *6300 N (S-Panther).*

More and more compact devices and machines require specially designed fans capable of discharging the waste heat from the tightly packed applications. Which is why we have developed a new generation of high-performance fans ideally equipped to deal with this task. The 6300 N is now the second S-Panther fan series, following on from the 3250 J.

The 6300 N (S-Panther) fan with dimensions of dia. 172 mm x 51 mm is far more powerful and quieter-running than its predecessor at multiple operating points thanks to a new impeller with innovative winglets and turbulator, as well as a new strut design.

The free-air air flow is between 540 m³/h and 1,030 m³/h. The high air flow rate and the low noise level – up to 6 dB(A) quieter than its predecessor – mean that the 6300 N (S-Panther) can be used both in applications demanding high power and in noise-sensitive situations. The fan series is thus particularly suitable for applications with a high continuous load, e. g. for variable frequency drives and switch cabinet cooling, printing machines and heat exchangers. But the fans are also well able to cope with the fluctuating cooling air requirements in IT/telecommunications, as well as in inverters for wind power plants.





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Motors and drive systems.

AC motors:

As capacitor motors in two- or four-pole design or as asymmetrical two-pole shaded-pole motors for low-torque applications, our AC motors offer well-established technology for a wide variety of uses.

DC motors:

The mechanically commutated DC motors of internal rotor design offer not just highly economical operation, but also reliable technology, good motor dynamics and a broad speed range. Thanks to the complementary range of transmission units, complete solutions can be created for virtually all drive tasks.

EC motors:

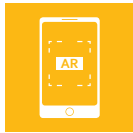
Our electronically commutated motors are available in various product ranges, sizes and power classes as internal and external rotor motors. They feature high efficiency, a long service life and low energy consumption. Other advantages include: High motor power with compact installation dimensions, good control properties in a broad speed range and highly constant torque with virtually silent operation. On account of their outstanding dynamic characteristics, our EC internal rotor motors can also be referred to as servomotors. With external or integrated operating electronics, they can be configured from a simple, speed-controlled motor right through to a bus-capable drive system (e.g. CANopen).

The facts at a glance:

- Highly diverse motor range for virtually all drive applications:
 - AC or DC motors
 - Internal or external rotor
 - Mechanical or electronic commutation
 - EC motor with integrated or external operating electronics
- System solutions including transmission, brake and encoder
- Drive units capable of communication with bus interface
- Customized motor solutions, motor parts sets and drive assemblies
- Motors for automotive applications: Power steering drives, drives for clutch actuators and various pumps in the areas of transmission lubrication and exhaust aftertreatment and more

Technical values

| | |
|---------------|------------------------|
| Voltage | 115–400 VAC, 12–60 VDC |
| Torque | up to 70 Nm |
| Power output | up to 1,500 W |
| Nominal speed | up to 30,000 rpm |



Motors and drive systems – best example: *ECI 63.xx*.

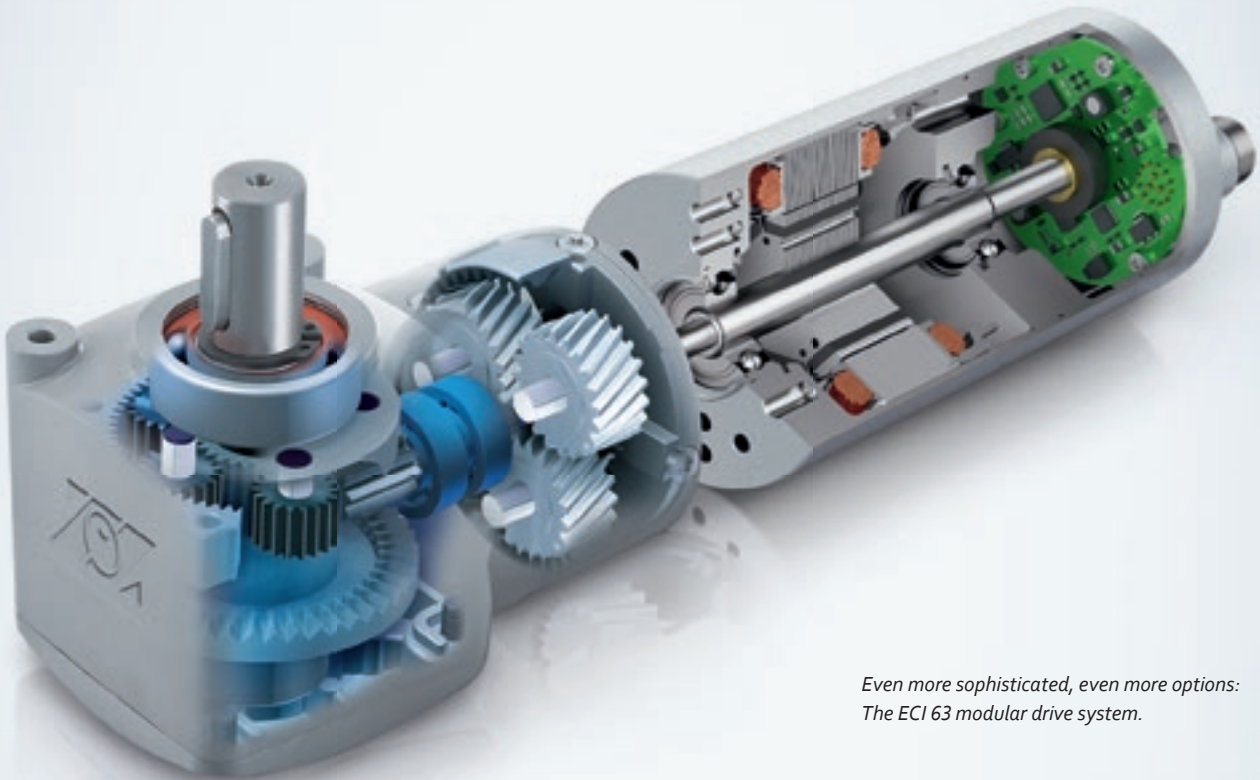
There is a demand for individual drive solutions for all sorts of applications in the field of industrial automation, intralogistics, access control and medical technology – but equally for the lowest possible development costs, rapid availability and high energy efficiency. Our solution: The ECI 63 modular drive series, a unique modular system enabling you to create your own individual drive system – including the motor, low-noise transmission units and brakes, right through to sensors and electronics. Simply choose what you need and we will put it together and deliver it in the shortest possible time – certain preferred types are ready for shipment in just 48 hours! And the motor is capable of keeping pace with growing requirements. An open shaft on the back makes it easy to install further modules – thus producing an ideal drive system.

Every detail has been considered for the connection system as well: Loadbearing panels provide seamless connection, allowing the modules to be mechanically joined together. Thanks to a sophisticated system, the winding connections can be simply wired up to the integrated electronics in the rear area. So the modules fit perfectly together and the dimensions remain compact. All the advantages of intelligent, innovative GreenTech EC technology are an added bonus. With standardization ensuring an outstanding price/performance ratio.





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*Even more sophisticated, even more options:
The ECI 63 modular drive system.*

Tangential blowers.

Oven jacket cooling, storage heaters, wood-burning stoves, under-floor convectors, air doors, air conditioners and heaters – common to all these applications is the need for a ventilation system of shallow design with high and uniform air flow. The ideal solution: Tangential blowers from ebm-papst. These provide high air flow rates, excellent air throw, and extremely good noise characteristics.

Stable performance to suit all requirements.

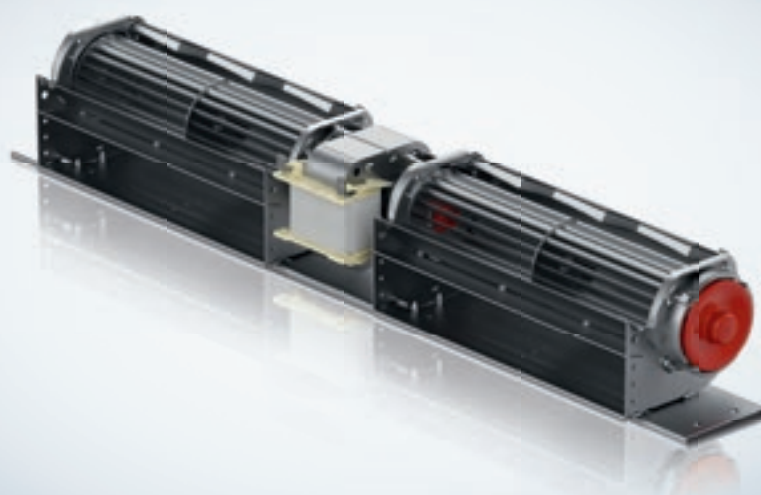
Tangential blowers are available with an asymmetrical shaded-pole motor, a capacitor motor or a GreenTech EC motor with integrated commutation electronics (incl. tach output and PWM or analog input) to suit the application. With the GreenTech EC motors it is possible to select a higher speed than for shaded-pole and capacitor motors, to overcome higher back pressures for example. In conjunction with corresponding sensors, the tangential blower with GreenTech EC technology can be set automatically to the required operating point and supplies exactly the volume of air needed.

The facts at a glance:

- Low noise with high air flow rates and low back pressures
- High air throughput with low flow velocities
- Expanded-width discharge area ensures that air makes good, uniform contact with ducts and surfaces to be cooled
- Space-saving shallow design
- Moisture-proof versions available
- Higher speeds than with AC motors thanks to GreenTech EC motors
- Infinitely variable speed control via PWM signal or 0–10 V analog voltage
- Ideal for distributing hot and cold air

Technical values

| | |
|-------------------|---------------------|
| Voltage | 100–400 VAC, 24 VDC |
| Air flow quantity | 18–1,400 m³/h |
| Power consumption | 5–80 W |
| Applications | 8–85 Pa |

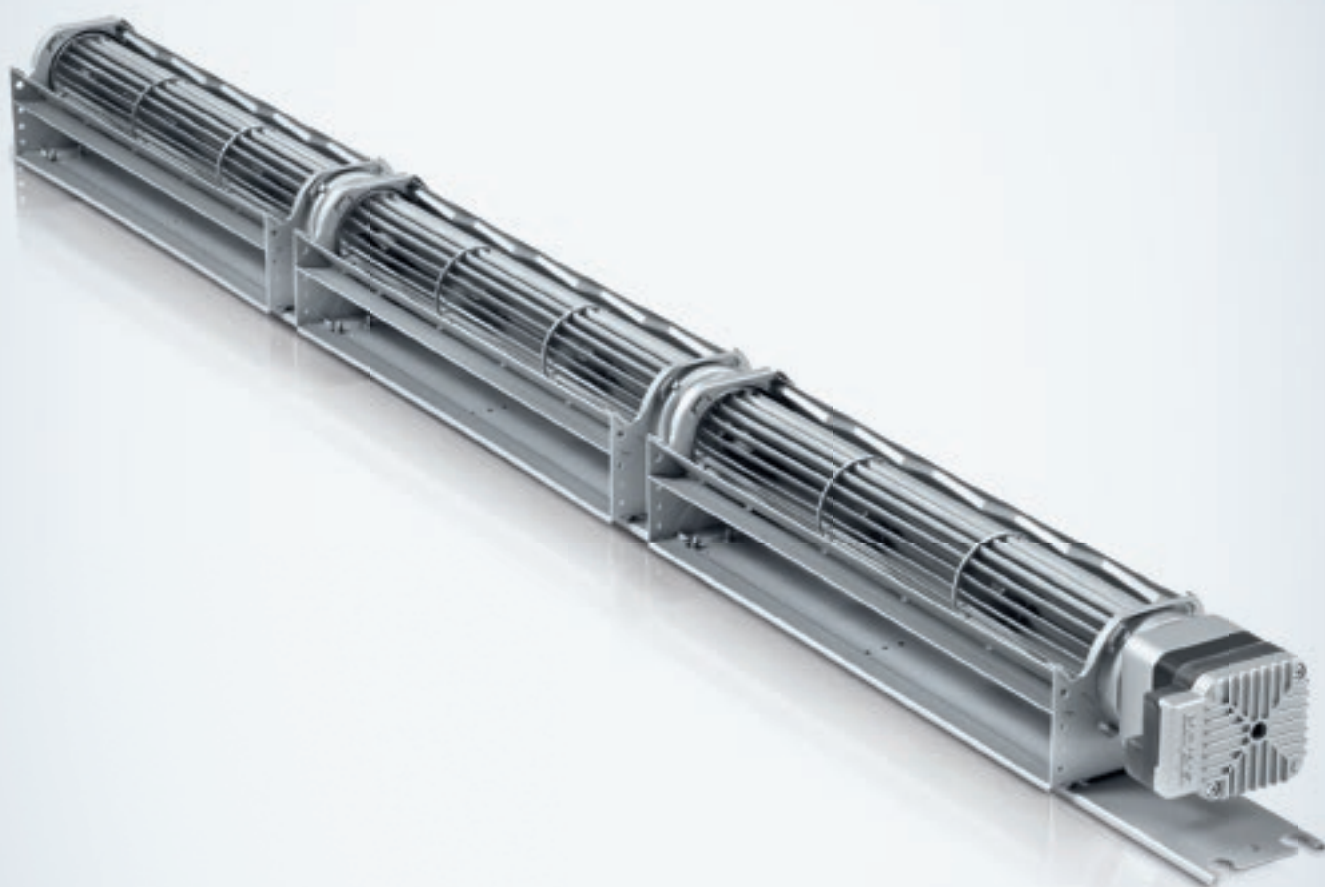


Tangential blowers – best example: *Cascaded tangential blower.*

In large tangential blowers – for example for underfloor convectors or air doors – use is made of our DE022 motor with innovative GreenTech EC technology.

The motor offers an extremely high level of efficiency and virtually silent operation. Operating electronics precisely adapted to the motor also provides individual precision control.





Gas blowers.

Compact design, low air flow rates, particularly high back pressures – ebm-papst centrifugal blowers for heating systems optimally satisfy all the requirements of gas condensing units, gas water heaters, gas boilers, gas and oil burners, fuel cells and other applications. You will always find the right blower in our comprehensive range – both for gas appliances with extremely low outputs and for high-power heating system boilers.

The ideal mixture.

Obtaining exactly the right gas/air mixing ratio is the crucial factor for an optimum combustion process and low NO_x emission levels with condensing units. Ideal for this purpose are centrifugal blowers with GreenTech EC technology, combining as they do outstanding control characteristics with smooth operation and very high efficiency.

A key to energy saving is modulation – infinitely variable regulation between the lowest possible and maximum heat output. Thanks to their modulating operation, the condensing units make particularly economic use of the fuel; the blowers are equipped with an interface for speed output and control for this purpose. To achieve a modulation level of 1:10, it is not sufficient to just regulate the speed. Further components such as the gas valve, combustion controller, venturi mixer and mass flow sensor also have to be perfectly coordinated with one another in a composite system. We rose to the challenge presented by this requirement.

Which is why our centrifugal blowers are available complete with gas valve, combustion controller, venturi and/or mass flow sensor. But whatever the concrete situation demands: The end product will not just be a specific system, but rather a solution offering a systematic increase in efficiency.

The facts at a glance:

- Ideal for higher pressures in condensing technology applications
- Minimum space requirement with high back pressures
- GreenTech EC motors with PWM and bus control input and tach output
- Simple installation of customer interfaces
- Large selection of products – for gas appliances with extremely low output right through to high-power heating system boilers
- Smooth operation
- High modulation level
- Perfectly coordinated components

Technical values

| | |
|-------------------|---------------------|
| Voltage | 100–480 VAC, 24 VDC |
| Air flow quantity | 50–8,000 m³/h |
| Power consumption | 20–14,000 W |
| Pressure increase | up to 7,000 Pa |
| Heat output | 0.5–4,000 kW |



Gas blowers – best example: *RadiMix VG 100.*

Heating systems and water heaters can only operate efficiently if they have an optimum heat source. Boilers of many different sizes used to be necessary on account of the great diversity of output levels required to cover the whole spectrum from low-energy homes to apartment blocks. The RadiMix platform on the other hand permits broad modulation ranges from 1:10 to 1:15, so that fewer variants are needed. With just four different versions, boiler manufacturers can cover the power range from 0.5 to 150 kW. Together with the standardized motor design, this means fewer stocks and less qualification work for example for equipment manufacturers.

With significantly improved efficiency and reduced noise emissions, the RadiMix VG 100 is the answer to the requirements of today's gas-condensing technology market in the power range up to 50 kW. Aerodynamic improvements to the blower impeller and fan scroll ensure a lower operating noise level throughout the entire modulation range. Another step was to completely revise the commutation electronics. This makes it possible to incorporate the blowers into digital heating concepts via optional bus interfaces such as LIN or CAN. The compact blowers can be easily integrated into existing gas boilers. In future they will also be available as part of a complete balanced system together with venturi and gas valve for optimum, low-pollution combustion.





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Hot-air blowers.

AC technology for reliability.

Well-established shaded-pole motor technology forms the basis for our centrifugal fans for household ovens: This applies to both the compact DS025 motor as cooling blower for the device electronics and oven jacket and the DS030 motor as hot-air blower for convection ovens. A particularly practical feature: A special bracket enables the hot-air motor to be mounted outside the oven cavity. Hot-air blowers based on the DS030 motor are therefore also ideal for use in ovens with pyrolytic self-cleaning function.

At home in all sorts of applications.

ebm-papst centrifugal blowers guarantee perfect results in both domestic appliances such as kitchen ranges and ovens, but also in climatic chambers, food and plate warmers, medical equipment, sterilization equipment, and drying ovens. The choice of motor design and the accessories used depend on the particular application.

Special solutions featuring EC technology.

In commercial kitchens, centrifugal fans with EC motors ensure appropriate and flexible air circulation or cooling, coupled with a high power density and efficiency.

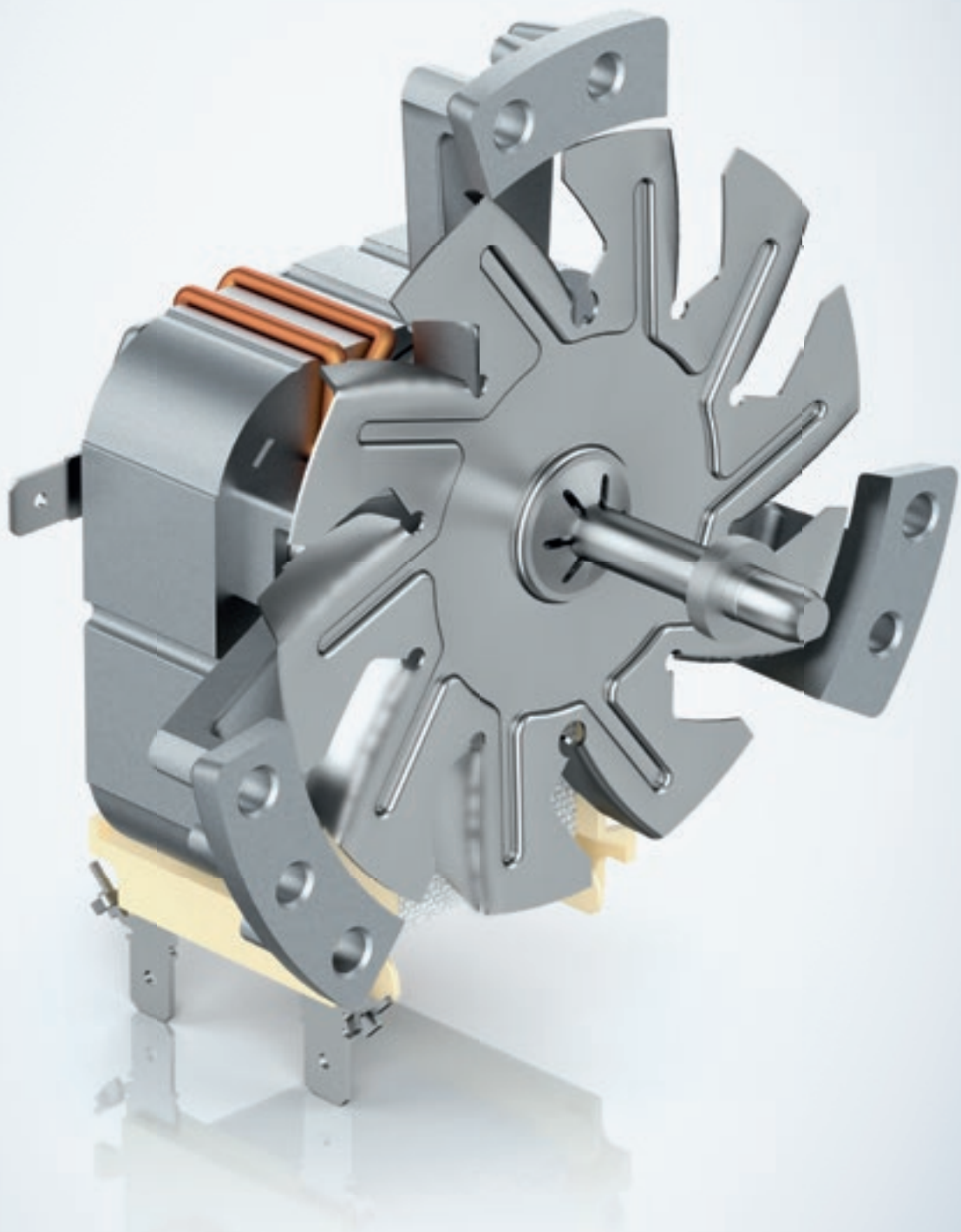
The facts at a glance:

- Perfect results in ovens, heated display cases and mobile warmers
- Proven and reliable shaded-pole motor technology
- Ready to install
- Various fan impeller sizes and designs available in different materials
- Products can be supplied for use in appliances with pyrolytic self-cleaning function
- Long service life

Technical values

| | |
|-------------------|--------------|
| Voltage | 115–400 VAC |
| Air flow quantity | 100–200 m³/h |
| Power consumption | 30–45 W |
| Applications | up to 450 Pa |





Hot-air blowers – best example: *Hot-air blower DS030.*

Hot-air fans based on DS030 shaded-pole motors are specially designed to deal with the circulation of hot air. As standard, they are built to satisfy insulation class H. Various motor heights and accordingly adapted motor designs are employed to suit different power requirements.

Compact ovens, freestanding and built-in appliances or multi-function ovens: A variety of different impeller designs ensures that the right air circulation is available for all shapes and sizes of oven. Special impellers and optimized flow control permit uniform temperature distribution even in exceptionally broad ovens through the combination of multiple hot-air blowers. Suitable materials (hot-dip aluminized steel, stainless steel or die-cast aluminum) are available for the fan impellers, depending on whether the ovens are intended for household or commercial use, with or without pyrolytic self-cleaning function.

A special three-arm bracket provides a wide range of mounting options. Sleeve or ball bearings are employed depending on the installation position and operating conditions, making ebm-papst hot-air blowers extremely reliable and smooth-running.



Pumps.

For air conditioners, beer taps, dryers and industrial applications – ebm-papst develops highly specialized pumps such as immersion pumps for conveying low-viscosity media, including water, condensate or lyes, or for the circulation of coolants in beer taps.

Every one a specialist.

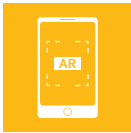
Pumps come into contact with all sorts of media. So the requirements they have to fulfill vary greatly. Which is why completely new product developments are often in demand in this sector in addition to proven standard solutions. ebm-papst has the experience and expertise to find the ideal solution for even the most complex tasks together with you.

The facts at a glance:

- Large selection of pumps for specially defined areas of application
- With asymmetrical shaded-pole motor drive, also available with fully encapsulated motor coil and RAST 5 connection
- Wide range of motors, from asymmetrical shaded-pole motors and single-phase AC external rotor motors right through to GreenTech EC motors

Technical values

| | |
|-------------------|-------------|
| Voltage | 115–230 VAC |
| Flow quantity | 1–12 l/min |
| Power consumption | 18–125 W |



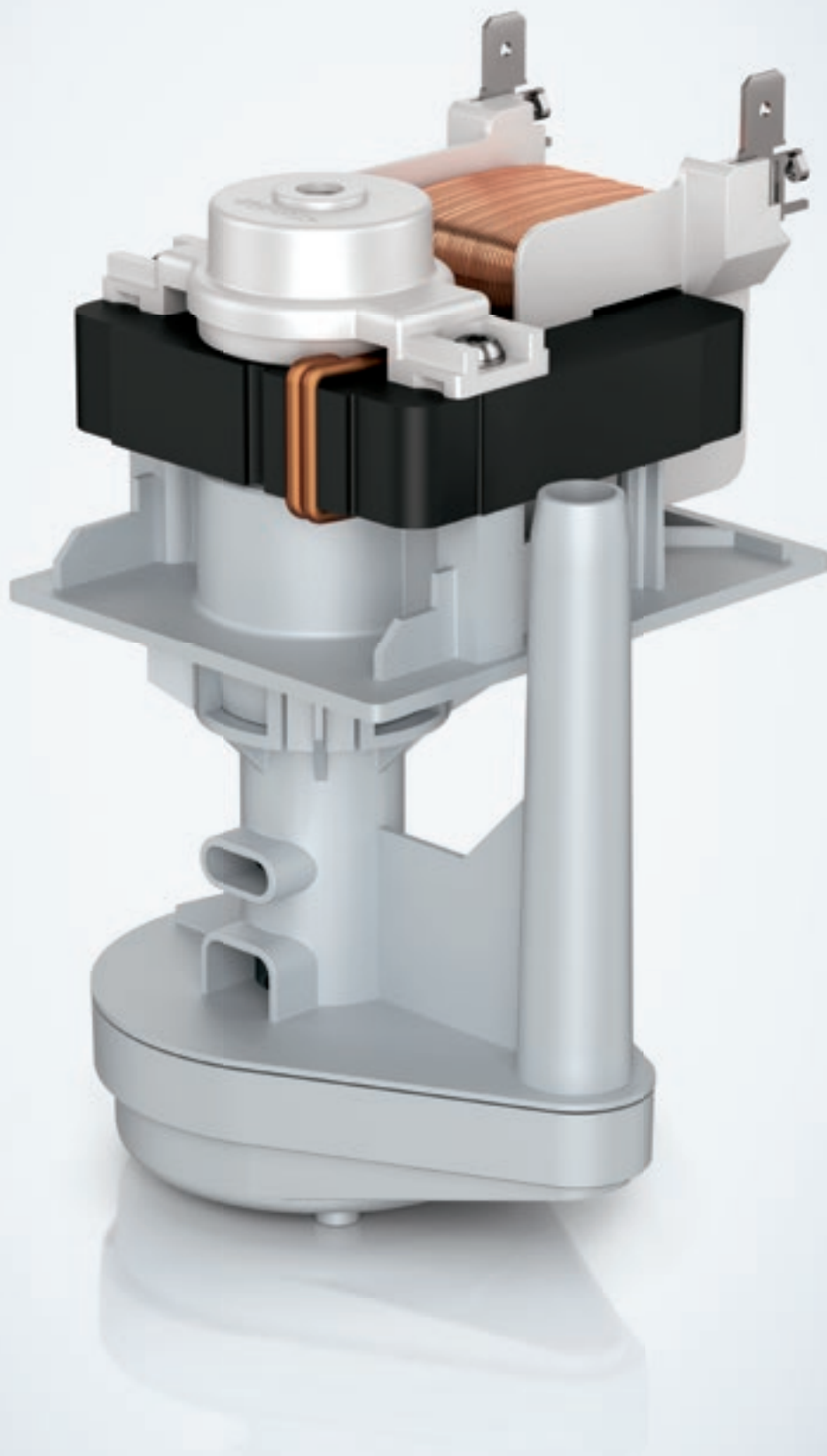
Pumps – best example:

PumpMax.

PumpMax, our standard condensate pump was specially developed for dryers but can also be employed for other applications in which condensate or water have to be pumped out. The proven shaded-pole motor technology is robust and ensures a high starting torque. Further advantages include the high pump speed and direct extraction without venting and with very low water levels (e.g. 10 mm).

The pump comes as a versatile modular system suitable for a wide range of installation and operating conditions. Different flow quantities can be obtained through the use of different motor heights, for example. In addition, the flexible attachment of the hydraulic unit to the motor block allows adjustment to differing installation situations, for instance thanks to variable positioning of the riser pipe. Even integration into customer-specific mounting frames is a very simple thing.









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the engineer's choice

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