Product overview

Made by ebm-papst

The world's widest product range of motors and fans

GREEN TECH

The engineer's choice

ebmpapst

Symbols that define standards

Green through and through.
In order to underline our philosophy, efforts and achievements when it comes to environmental protection, we have put them all in a nutshell with GreenTech. The benefits of GreenTech mesh with one another from the initial development of our products through to their use – and they form a circuit that finishes right where it began: with the philosophy that we shall soon build another, even more eco-friendly and economical product.

Philosophy:
Each new development must exceed the economic and ecological performance of its predecessor.

Development:
Materials, products and processes are selected and designed in an environmentally responsible manner using state-of-the-art methods.

Production:
State-of-the-art energy, air-conditioning and ventilation technology provides maximum energy efficiency in our plant.

Awards:
Environmental prizes, distinctions and energy efficiency that beats even the most stringent limits speak for themselves.

Application:
Our high-efficiency products use GreenTech EC technology and boast enormous energy savings with top performance.

ErP2015 EXCEEDS THE NORM

For products with an input capacity between 125 W and 500 kW, the new European Energy-related Products Directive (ErP) to improve energy efficiency will enter into force in 2015 at the latest. Thanks to leading edge GreenTech EC technology, all ebm-papst fans and motors in these performance classes exceed the ErP Directive even today.

Three competence centres, one outstanding worldwide product range

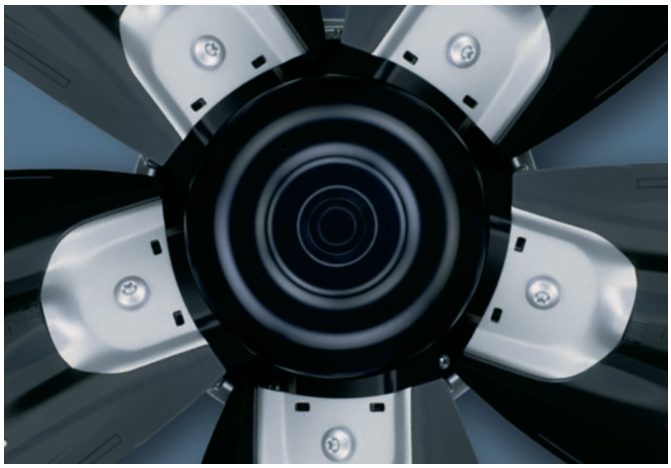
The ebm product portfolio now numbers over 14,500 products. Thus we offer the right solution for almost every air technology and drive engineering task. And if not, we will develop a new one together with you. This is made possible by our over 500 extremely dedicated engineers and technicians who work for us – and for you – at our three central locations in Germany.

Mulfingen – our cooling headquarters.
Our largest location and the home of our corporate headquarters specialises in ventilation, air-conditioning and refrigeration technology. A steady stream of new and outstanding product innovations originates from here. Thus Mulfingen, like St. Georgen, is a pioneer and protagonist in developing the high-efficiency GreenTech EC technology, which is making advances in an increasing number of areas. This is no wonder, as it is far superior to conventional AC technology – quiet, intelligent and environmentally responsible in operation and ruthless when it comes to saving money.

St. Georgen – we are big on SMALL.
Our miniature drives have become a fixture in many industries, and our compact fans for electronics cooling are legendary. At our location in St. Georgen, the emphasis is on the highest quality, even for the smallest applications. Thus we have earned our worldwide reputation as a trendsetter in IT and telecommunications as well as an innovative development partner in the areas of medicine, automotive engineering and industrial automation. We want to not only maintain this position, but continue to expand it by always offering new innovations.

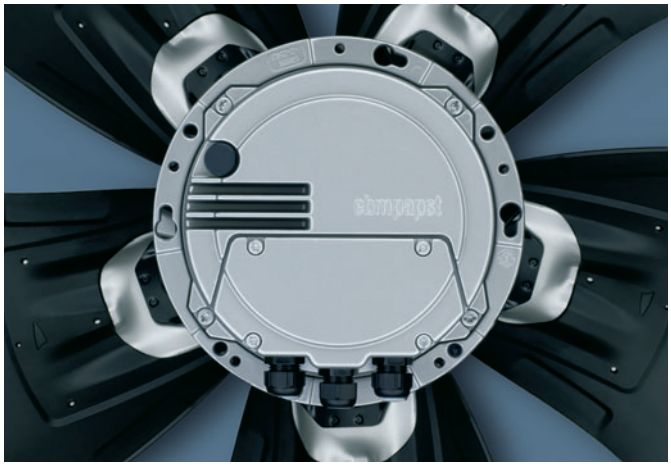
Landshut – where high-tech becomes home tech.
In Landshut, our primarily line of business is providing the right temperatures in the home. We do so with applications such as those for gas and oil-fired heaters, for fuel cells, clothes dryers, refrigerators and freezers. You, too, may have up to 20 ebm-papst products in your home, providing faithful service. Because they do so almost silently and with maximum reliability, you will probably not notice them much – except when you are astonished at how low your energy bill is. After all, they also feature exceptional energy-saving performance.

Three core competencies, one unmatched synergy

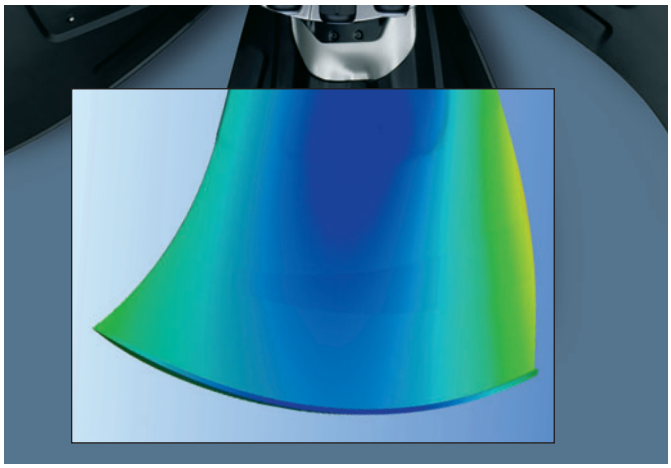


The exceptional system solution needs three things

Innovative motor technology:
Our external rotor motor has long been well known among specialists – quiet, powerful and continuously evolving, it has made us the world market leader. With its remarkable versatility for integration, it is ideally suited to the most diverse applications. Which has given us the world's widest range of fan and motor types – perfectly complemented by our internal rotor motors for dynamic applications or particularly chemically aggressive air.

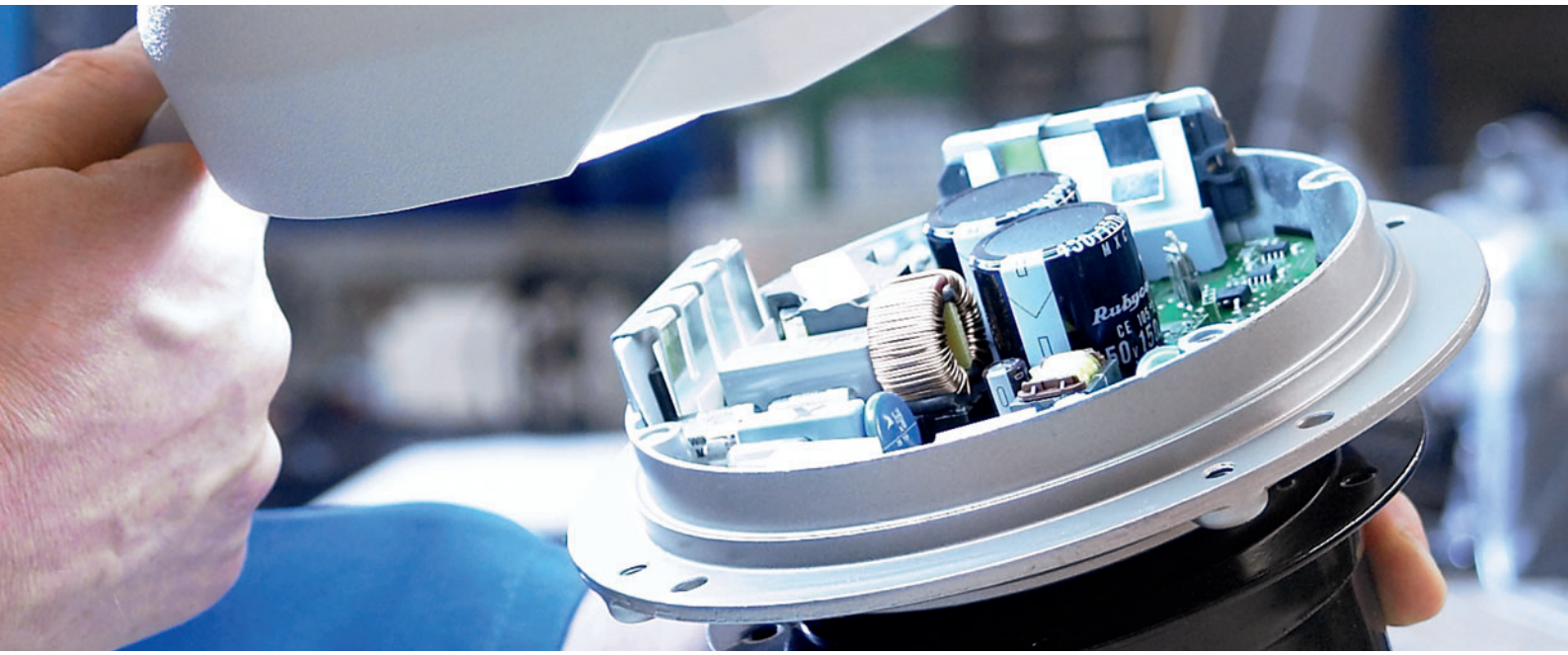


Intelligent electronics:
The brain of every state-of-the-art system solution. With the electronics as the controlling element, the drive engineering and aerodynamics are matched perfectly and deployed in a manner customised to the application – manually controlled or automated. Altogether, the result is high-quality end products from a single source – from highly focused electronics cooling to the energy saving heating system.



Aerodynamics that thinks along with you:
The optimum shape is essential, whether for axial or centrifugal fans, centrifugal blowers, compact fans or tangential blowers. Therefore, we always design fan blades, impellers and ducted housings in the corresponding application-specific environment. Only in this way do we attain the greatest possible efficiency with maximum noise reduction. In short: Aerodynamics in perfection.

Our innovative technologies keep on turning into new industrial standards. Our advantage: We consider aerodynamic relationships as a whole. Thus we combine benchmark-setting motor technology with the intelligence of state-of-the-art electronics and aerodynamically optimised shapes. The system solutions that result from these three core competencies have a synergy that is unique in all the world and make up the majority of our product line. And they will be our main key to success.



GreenTech EC technology: Our motor for the future
Virtually our entire product range is now available with GreenTech, the leading edge EC technology. The reason is simple: The future belongs to GreenTech EC motors from ebm-papst! There are many reasons for this: the wear-free and maintenance-free performance, the longer service life, the noise reduction, the intelligent electronic control, the higher efficiency, along with the ultimate reason for all of this: unparalleled energy efficiency with average savings of 30 % – in many areas even up to 80 % – compared to conventional AC technology. And if you need one more reason: no company has more experience in GreenTech EC technology than ebm-papst.

Passion, quality, responsibility: Three more reasons for our success
Only real passion for fans and motors makes the highest level of achievement, such as that accomplished time and again by ebm-papst, possible. With a clear organisational structure, flat hierarchies and a high degree of personal responsibility, we create the perfect foundation – not only for technological innovation, but also for excellent service and active dedication to being close to our customers.

Of course, our products are also produced with the highest quality – at a total of 17 production sites worldwide. Our quality management is uncompromising, everywhere and in every process stage. This is also confirmed by our certification of compliance with the international standards DIN EN ISO 9001, ISO/TS 16949-2 and the standard DIN EN ISO 14001.

And we think even beyond these standards: One way is our consideration of the environment. With our corporate conviction of continuous economic and ecological improvement and our GreenTech environmental label, we could not set the bar any higher for ourselves. And we exceed it with every new product. The best proof: All ebm-papst fans and motors in the respective performance classes exceed the ErP Directive for 2015 even today.

Another is that we also think of the future. Therefore, we support young people who are enthusiastic about technology with numerous projects, scholarships and educational and training opportunities. So that products "Made by ebm-papst" also remain the choice of engineers tomorrow!

Axial fans

ebm-papst's axial fans prove their reputation as space-saving wonders by moving air for hot or cold air exchange in a wide variety of devices and systems. Their outstanding features are their small installation depth, low noise level and exceptional efficiency, and are particularly well suited for air flow through heat exchangers. Furthermore, with GreenTech EC technology, they become intelligent energy savers for an extremely wide range of applications, primarily in ventilation, air-conditioning and refrigeration technology.

One principle, countless options

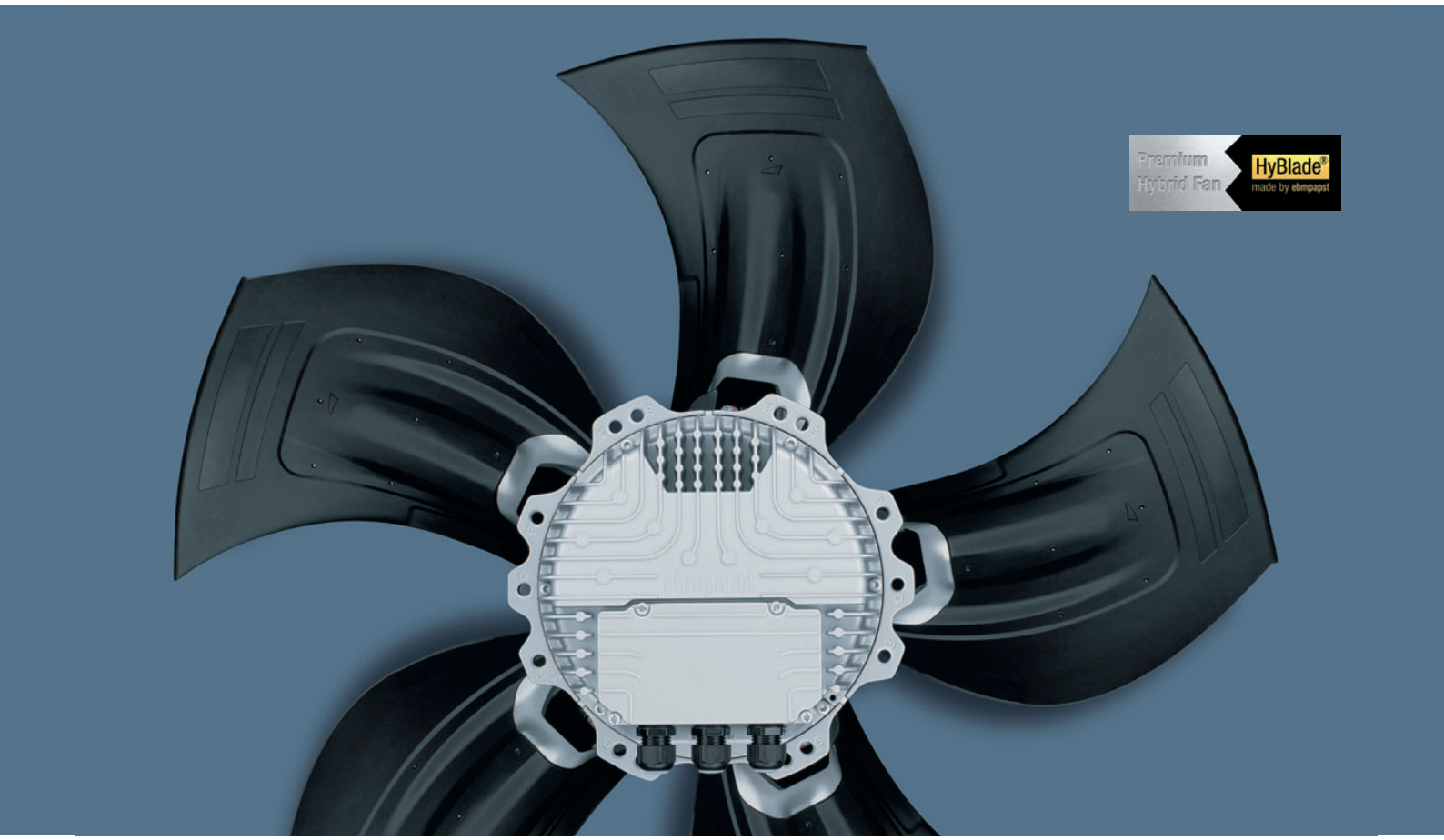
The axial fan, the function of which is similar to a propeller, moves the air axially, parallel to the revolving motor shaft. The ebm-papst external rotor motor is integrated directly into the axial impeller, forming a compact axial fan unit. Moreover, using GreenTech EC motors also enables precision control of the air flow – they are available with tacho output, linear or PWM input, bus-connectable interfaces and many other features. They are usually installed with wall rings in short or long bell mouths.

All the facts at a glance

- Compact dimensions
- Available in GreenTech EC technology or AC technology
- Wide selection of models, dimensions and air performance levels
- Optimum efficiency and noise level due to well-engineered aerodynamic design of the fan blades
- High-efficiency, energy saving designs in GreenTech EC technology with standardised integration of control functions and sensor signals
- Wide range of accessories, including guard grilles, basket guard grilles and wall rings
- The axial fan is dynamically balanced in two planes to DIN ISO 1940
- Numerous approvals, including VDE, UL, CSA, CE and GOST
- Applications: Ventilation, air-conditioning and refrigeration technology, automotive industry, wind power and mechanical engineering/finishing equipment industry

Technical values	
Voltage range:	100–480 VAC,
	12–110 VDC
Air volume:	1–35,000 m^3/h
Power input:	1–3,200 W
Back pressure:	up to 350 Pa

The best example: HyBlade®



An outstanding example of the continuous further development and improvement of our products is HyBlade® – a one-of-a-kind material composite developed specifically for large axial fans. HyBlade® brings the benefits of two opposite materials to their lowest common denominator: maximum efficiency.

For one, a carrier made of aluminium provides high stability. For another, the attached sleeve made of fibreglass-reinforced plastic permits completely free mouldability of the blades. Where metal can be machined only by bending, stamping and punching, fan blades with the HyBlade® structure can be optimised down to the finest detail, for example using winglets on the wing tips, like those that provide greater lift for aeroplanes. For the HyBlade®, they enable even higher aerodynamic efficiency – with minimum weight and revolutionary noise reduction. In conjunction with our highly efficient, leading edge drives with GreenTech EC technology, HyBlade® fans become real energy-saving wonders.

No wonder, then, that HyBlade® has also become an international sensation. For example, in early 2008, our product innovation received the iF material award (iF International Forum Design GmbH), the renowned prize for outstanding material solutions.

HyBlade® fans are available in many familiar sizes and with standardised interfaces. This makes it particularly easy to switch to our lightweight fans.

Centrifugal fans

Centrifugal fans from ebm-papst are available with forward or backward curved blades. The low-noise centrifugal fans and blowers with forward curved blades are also supplied with a spiral housing. The centrifugal fans with backward curved blades are designed as free-wheeling fans and do not require a scroll housing. For the centrifugal fans with external rotor motors, the motor is positioned in the impeller, which results in an especially compact design in addition to optimal cooling of the motor. The entire product line is available in both AC and GreenTech EC technology.

Turn down the volume, turn up the power

The outstanding feature of our centrifugal fans with forward curved blades is their minimum noise level and high power density. They are used wherever a large air volume has to be moved in a tight space. To adapt to the aerodynamic and geometric requirements, the impellers are arranged in single-inlet or dual-inlet form. Due to the large number of impeller blades, fans with forward curved impellers have a "pleasant" noise characteristic, which makes them particularly suited for applications in ventilation technology.

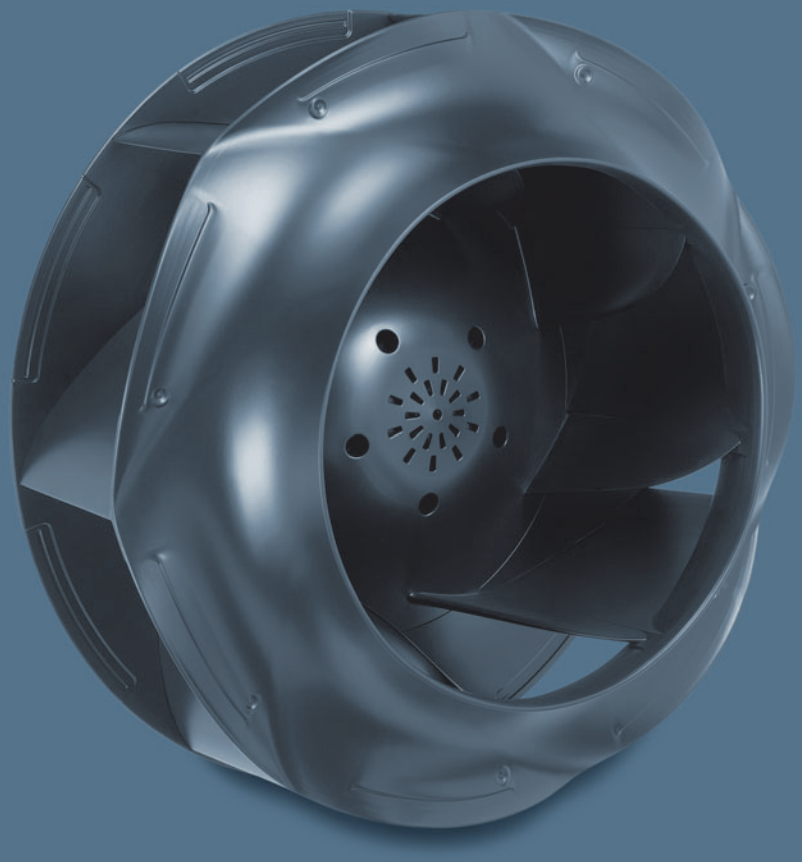
Depending on the size and application, the scroll housings of these fans are made of sheet steel, plastic or die-cast aluminium. To optimise the efficiency, in addition to the voltage-controlled asynchronous motors, the particularly efficient GreenTech EC motors are used. Thus both drive types are available over the entire power range.

Technical values	
Voltage range:	100–480 VAC, 50/60 Hz
	12–48 VDC
Air volume:	1–18,000 m^3/h
Power input:	1–5,400 W
Back pressure:	up to 2,000 Pa

All the facts at a glance

- Compact fans with particularly flat installation depth
- Plug-and-play thanks to optimal installation modules and prefabricated cables and plugs
- Can be used for a wide power range at low noise
- External rotor motor is positioned in the air flow, providing good cooling
- GreenTech EC technology with integrated electronics for mains operation
- GreenTech EC technology is also available in low-voltage versions with 24 or 48 VDC
- 100 % speed-controlled analogue and/or digital interface
- High efficiency of the GreenTech EC centrifugal fans
- Individual added value provided by the large number of functions, including constant volume flow and bus interface
- New, especially quiet and energy-efficient RadiCal fans
- Extensive range of accessories, e.g. guard grilles and inlet nozzles
- Also available with scroll housing
- For use with aggressive and hot media, also available with outside-mounted, temperature- and noise-isolated internal rotor motor

The best example: RadiCal



What HyBlade® is for axial fans, RadiCal is for centrifugal fans: another breakthrough in ventilation and air-conditioning technology. The radical features are both noise reduction and additional reduction of energy consumption. As with the HyBlade®, the fan blades of the RadiCal consist of fibreglass-reinforced plastic. This enables an aerodynamically optimised shape, which cuts the noise level in half and reduces the power requirement significantly.

We have also evolved the GreenTech EC motors or, more specifically, have miniaturised them. This gives the fans significantly more compact dimensions, allowing them to replace existing AC fans without any problem. In conjunction with optimised motor thermal management and increased efficiency, this provides energy savings of up to 50 % compared to AC solutions. Thus the RadiCal not only meets all existing environmental directives with ease, but is also ideally equipped for the future.

RadiCal fans from ebm-papst are available in various sizes and power stages for an extremely wide variety of applications – by request, also as ready-to-install modules.

Fans

Compact, high-performance and efficient – this is the fan program from ebm-papst. They are versatile all-round talents for the widest variety of applications, and remain the most tried-and-tested means of moving air in electronics cooling. Over the years, we have kept improving the performance and energy efficiency, setting the standard for quiet fans.

Axial, centrifugal or diagonal – all point the way towards the future
Fans from ebm-papst, which have long been the standard in electronics cooling, are available in 3 designs:

Our **axial fans** are suitable for high air performance with moderate pressure build-up. The flow of air through the fan blades is parallel to the rotational axis. The space-saving integration of the motor makes them extremely flat.

The **centrifugal fans** from ebm-papst are the unbeatable high-pressure specialists with 90° air deflection and carefully optimised impellers.

For our **diagonal fans** the outflow is diagonal. This compresses the air more – for a higher air flow at high pressure build-up. This makes them particularly well suited for cooling-intensive applications with tightly spaced components.

For each type, ebm-papst offers a large selection of fans, which are available in AC, DC or GreenTech EC design, for all voltages and in all standard sizes. With preinstalled electronics, they also offer numerous additional options and can also be networked intelligently with the respective device logic.

All the facts at a glance

- Space-saving installation with compact, flat design
- Large selection of sizes and installation depth
- Available in AC or energy-saving DC and GreenTech EC technology
- New ACmaxx generation in GreenTech EC technology and with very high energy savings compared to conventional AC fans
- Efficient drives, some of them multi-pole and with 3-phase drives
- State-of-the-art impellers with winglets and sickle-shaped blades for low noise and high efficiency
- High reliability and service life
- Wide variety of monitoring and control functions enable customer-oriented and demand-oriented fan operation
- Various protective mechanisms against ambient influences such as dust, humidity, water and salt
- Safety included: Approvals to VDE, UL, CSA, CE and CCC
- Applications: telecommunications, control cabinet cooling, frequency inverters, solar inverters, medical technology, household appliances, automotive engineering

The best example: S-Force

The S-Force principle stands not only for the highest performance, but also for the technology that has made the highest performance possible in the first place. Wherever you need cooling performance that is equally quick and powerful, fans with S-Force technology are a solution for which there is virtually no alternative. Four factors are critical to this performance:

State-of-the-art multi-pole DC drives in 3-phase or single-phase design with efficiency of up to 90 % are the core of our S-Force series.

Robust mechanics enable high fan speeds without limiting the service life and allow them to be used in heavy-duty industrial applications.

The electronics ensure maximum efficiency and flexibility. A wide variety of monitoring and control options enable optimum adaptation to the customer and application.

Finally, **aerodynamically optimised impellers** transmit the drive output to the air, thus contributing to the efficiency and reduced operating noise level. Here, it is important to define the right combination of high air volume, high pressure build-up and low noise.

With its perfect interaction of all components, S-Force is the state-of-the-art solution for a wide variety of applications, sizes and performance classes – in which it holds, without exception, the world championship title in air performance and pressure build-up – with first-class motor efficiency and long service life.

Technical values

	Axial fans	Diagonal fans	Centrifugal fans
Voltage range:	115–230 VAC, 5–72 VDC	12–72 VDC	12–48 VDC, 115–230 VAC
Air volume:	2–1,200 m^3/h	250–700 m^3/h	10–500 m^3/h
Power input:	0.5–100 W	20–90 W	2–160 W
Back pressure:	up to 550 Pa	up to 270 Pa	50–1,600 Pa

Motors and drive systems

Ideas from ebm-papst set the world in motion: in industry, medicine, at the office, and every day at home. They have done so for over 60 years – from the first AC external rotor motor to direct current motors to our electronically commutated, brushless motor systems in external or internal rotor design, which even today exceed the environmental and efficiency requirements of tomorrow.

AC motors:
As capacitor motors in two- or four-pole design or as asymmetric two-pole shaded-pole motors for low-torque applications, our AC motors offer proven technology for an extremely wide variety of applications.

DC motors:
The mechanically commutated direct current motors in internal rotor design offer not only high cost-effectiveness, but also reliable technology, good motor dynamics and a wide speed range. Supplemented by the geared product range, complete solutions can be realised for almost all drive tasks.

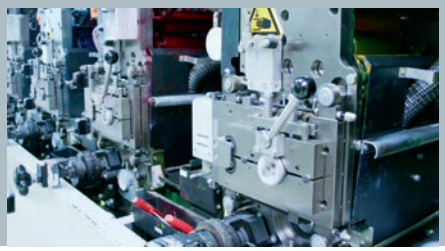
EC motors:
Our electronically commutated motors are available in various series and performance classes as internal and external rotor motors. They also feature outstanding high efficiency and thus low energy consumption. Additional advantages include: high motor output from a compact installation space, good control characteristics in a wide speed range and high torque stability with virtually silent running. Their outstanding dynamic characteristics allow our EC internal rotor motors to also be used as servomotors. With integrated or external operating electronics, they can be configured as anything from a simple, speed-controlled motor to a communications-enabled CANopen drive system.

All the facts at a glance

- Comprehensive motor range for virtually all drive applications:
  - Whether AC or direct current motors
  - Internal or external rotor motors
  - Mechanically or electronically commutated
  - EC motor with integrated or external operating electronics
- System solutions including gearbox, brake and speed sensors
- Communications-enabled drives with bus interface
- Customer-specific motor solutions, motor part sets and drive sub-assemblies
- Motors for automotive applications: power steering drives, drives for clutch actuators and various pumps in the area of gearbox lubrication and exhaust gas treatment

Technical values	
Voltage range:	115–400 VAC, 12–60 VDC
Torque:	0.01–25 Nm
Power output:	1–1,500 W
Speed:	up to 30,000 rpm

The best example: ECI 63



Whether for packing and sorting machines, in the textile industry or medical technology, custom drive solutions are required everywhere – while also providing the lowest possible development and maintenance costs and fast availability. Our solution: the modular ECI 63 drive series, a one-of-a-kind modular system that enables you to put together a custom drive that suits your needs perfectly – including the motor, gearbox and brake as well as the rotary encoder and electronics. Select what you need, and we will assemble and deliver it in almost no time. As your requirements grow, the motor simply grows along with them, as the open design shaft brought out on the rear makes installing additional modules no problem.

The connection system is also thought through to the smallest detail: intermediate bases designed with load-bearing capacity provide a seamless connection, where the modules are joined together mechanically. An ingenious system allows the winding connections to be simply through-connected to the electronics located behind them. The modules fit together perfectly and the dimensions remain compact. To this are added the advantages of the intelligent and leading edge GreenTech EC technology. Thanks to standardisation, this comes with an excellent price-performance ratio.

Tangential blowers

Stove jacket cooling, thermal storage heaters, wood-burning stoves, overhead projectors, tanning beds, climate control systems and heating units: all these applications share the need for ventilation with a low overall height and high air flow at low flow rates. The ideal solution: tangential blowers from ebm-papst. The exceptional features of tangential blowers are their high air flow at relatively low back pressure and very good noise characteristics – enabled by the wide intake and discharge cross-section.

Stable output for every need

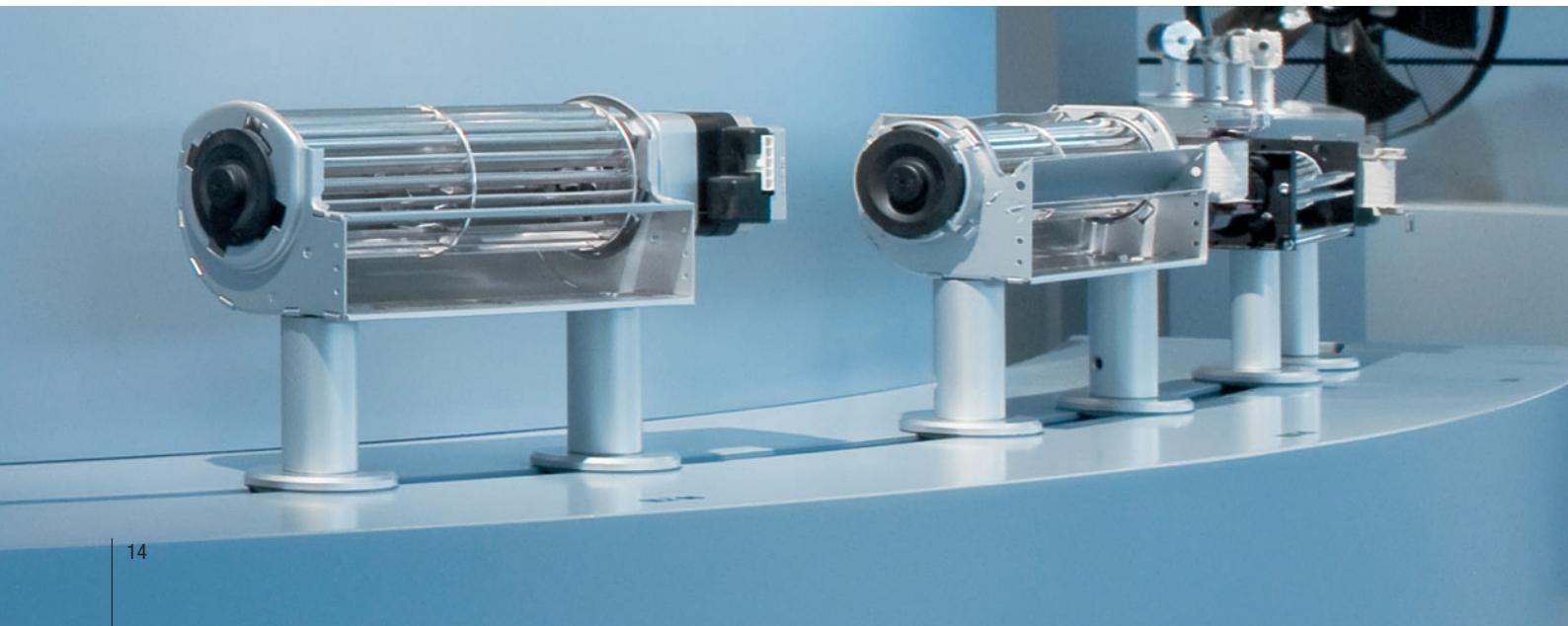
The wide, drum-shaped impellers of the tangential blowers consist of many short blades which, like the centrifugal impeller, are forward curved. The air flows twice in a centrifugal direction through the impeller – from the outside in in the intake area and in the opposite direction in the exhaust area. A guiding device at the impeller housing forms a vortex core that ensures a stable flow of air.

Depending on the specific application, tangential blowers are available with asymmetrical shaded-pole motor, capacitor motor or GreenTech EC motor with integrated commutation electronics (including tacho output and PWM or analogue output). For the GreenTech EC motors, a higher speed can be selected than for shaded-pole and capacitor motors, for example to overcome higher back pressure. Using corresponding sensor technology, the tangential blower with GreenTech EC technology configures the necessary operating points automatically and provides the exact air volume needed.

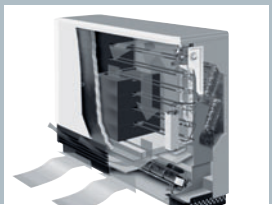
All the facts at a glance

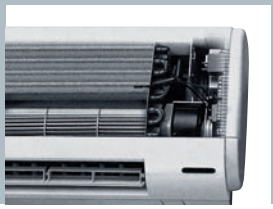
- Low noise at high air flow and low back pressure
- High air flow at low flow rates
- Good contact of cooled ducts and surfaces with cold air due to the expanded width of the exhaust surface
- Very flat design
- Moisture-protected versions, for example for refrigeration technology
- GreenTech EC motors enable higher speeds and a higher maximum pressure than is possible with AC motors, as well as intelligent speed control via PWM signal

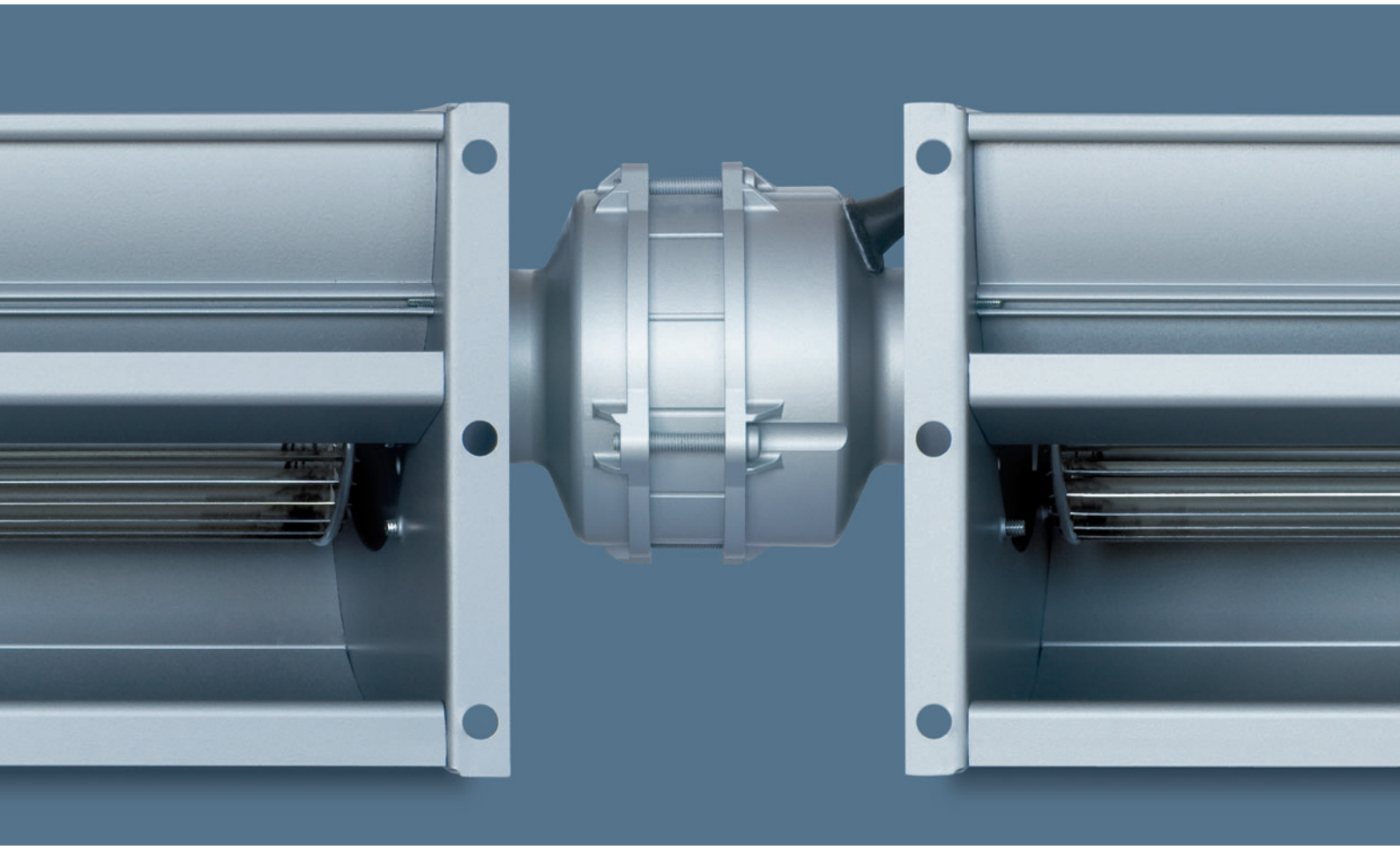
Technical values	
Voltage range:	100–400 VAC, 24 VDC
Air volume:	18–420 m^3/h
Power input:	5–72 W
Back pressure:	8 to 165 Pa



The best example: Tangential blowers with size 43 GreenTech EC motor



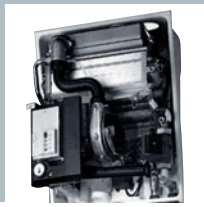




In large tangential blowers – such as those used for underfloor convection heating or air curtains – our newly developed size 43 motor with leading edge GreenTech EC technology is used. The three-core internal rotor motor features outstandingly high efficiency and virtually silent operation. In addition, operating electronics that are tuned exactly to the motor offer individual and precision control options.

Centrifugal blowers for heating engineering

Compact design, low air flow, particularly high back pressure – ebm-papst centrifugal blowers for heating engineering fulfil all requirements of gas condensing boilers, gas-fired heating systems, gas-fired boilers, gas and oil burners, fuel cells and other applications. Using GreenTech EC motors also enables higher speeds compared to the asynchronous motor, and these speeds can be controlled continuously using the built-in intelligence. You will always find the right blower in our extensive product range – whether for gas-fired units with the smallest output or large heating boiler outputs.



The optimum mix

For an optimal burning process in condensing boilers, maintaining an exact mixing ratio of gas to air is critical for low NO_x emissions. The high flow resistance of these condensing boilers requires blowers with steep pressure/flow rate curves. These requirements are optimally met by ebm-papst gas blowers with GreenTech EC motors. The blower consists of a backward curved plastic impeller that is surrounded by a die-cast aluminium scroll housing. It also has a specially shaped exhaust flange with mounting holes and pressure taps. The electronics are mounted on the motor and are also included in the delivery – for 24 VDC, line-voltage-powered 115 VAC or 230 VAC with tacho output signal or Lin/PWM input.

For devices in conventional heating systems, exhaust gas blowers with attached, decoupled shaded-pole motors are used. Depending on customer requirements, fans for 24 VDC as well as line-voltage-powered 115 VAC and 230 VAC, 50/60 Hz are available.

Naturally, as part of our comprehensive expertise in system solutions, we can adapt the control system electronics to meet the individual requirements of a given application. Likewise, our centrifugal blowers are available complete with a Venturi and/or mass flow sensor. As always, this is the concrete promise we make: The end result is not only a specific system, but a solution with a systematic improvement in efficiency.

All the facts at a glance

- Ideal for high pressure in condensing boiler technology
- Smallest installation space at high back pressure
- In addition to AC asynchronous motors, GreenTech EC external or internal rotor motors can also be used, with PWM and Lin control input and tacho output for optimum combustion air flow
- Easy installation of customer connections such as the exhaust flange, pressure tap, plug-and-play connector
- Large product selection – for gas-fired units with the smallest output up to large heating boiler outputs
- Additional advantages of the Lambda**Constant** System:
  - Fast, independent burner temperature control
  - Previously unattained modulation range of 1:10 compared to 1:5 for pneumatic heating units
  - No gas type changeover required
  - Reduction of heating unit types
  - More efficient and environmentally friendly than conventional condensing boilers

Technical values	
Voltage range:	115 VAC, 230 VAC, 24 VDC
Air volume:	50–1,500 m^3/h
Power input:	20–820 W
Back pressure:	up to 4,000 Pa

The best example: Lambda**Constant**

In 2008, ebm-papst revolutionised condensing boiler technology with the Lambda**Constant** System. Consisting of an intelligent ebm-papst blower plus control unit, it is the first system that adjusts automatically to different basic conditions, applications and even different gas types – whether natural gas, liquid gas, biogas or hydrogen-enhanced gas. Temperature and air mass flow measurement allow the built-in control electronics to automatically detect and optimise both the gas family and the quality of the combustion. This also compensates automatically for other influences, such as air pressure, wind or the length of the flue gas tract. For optimum combustion at all times and under all conditions.

The advantages are clear: With Lambda**Constant**, complex adjustment and calibration is no longer required. The mechanical switchover for the engineer is also done away with. In addition, the widest range of applications and output ratings can be implemented with just one device, which drastically reduces the number of types and the associated cost outlay. Of course, by ensuring optimum combustion at all times, Lambda**Constant** also attains maximum efficiency and environmental performance.

Hot-air blowers

Whether in kitchen stoves, ovens, climate-controlled cabinets, food and plate warmers or in medical devices, sterilisation units and drying ovens: ebm-papst hot-air blowers provide perfect air performance in both household and commercial applications. Some of the reasons for this include optimum air volumes and a long service life, as the function of the motor is not impaired by the hot air being moved. In short: They render extremely quiet and reliable service.

Reliability in AC or GreenTech EC technology

Hot-air blowers usually consist of an asymmetric shaded-pole motor with one shaft end brought out, which carries a hot-air impeller made of stainless steel or die-cast aluminium and can also feature a catalytic coating. The motor itself contains bearing shields with a special mounting option that enables the fan to be installed outside the hot area. The impellers are usually very narrow and backward curved. For commercial ovens, the tried-and-tested external rotor motor is used as a single-phase AC motor, three-phase motor or GreenTech EC motor. The great advantage of hot-air blowers with GreenTech EC technology: intelligent sensors and programming ensure that they always deliver optimum air volume.

All the facts at a glance

- Ready-to-install hot-air blowers, developed specifically for hot-air applications
- Impellers available in stainless steel, die-cast aluminium, catalytic coating or with other coating techniques for self-cleaning processes
- Withstands temperatures from 120 °C to 500 °C for short periods (pyrolytic self-cleaning)
- Intelligent GreenTech EC technology for optimum results
- Comprehensive product range for a wide variety of applications
- Long service life

Technical values	
Voltage range:	115–400 VAC
Air volume:	100–200 m^3/h
Power input:	30–45 W
Back pressure:	up to 450 Pa

The best example: RRM 42 for pyrolytic ovens

Pyrolytic ovens are a real boon to cleanliness. Though they relieve the housewife or househusband of messy work, the hot-air blower does not get any relief at all. It must withstand temperatures up to 500 °C over a lengthy period of 1–2 hours without any decrease in output or function.

Our RRM 42 hot-air blower has been developed for exactly this challenge, which it passes with flying colours – thanks to exceptionally effective strong insulation, which provides ideal protection for the motor. Even with all these strengths, the blower remains particularly low-profile.

Pumps

Whether for climate control systems, beverage tapping units, washing machines, condensing clothes dryers or other industrial applications: ebm-papst develops highly specific pumps for certain defined applications. One of these is submersible circulation pumps for low-viscosity media such as water, condensate, or soap-and-water mixtures, or for circulating cooling agents in beverage tapping units. Another is dosing pumps for precision dispensing of high-viscosity media such as liquid detergent, fabric softener, oils, paints and lacquers, chemicals and so on.

All-round specialists

Pumps come into contact with an extremely wide variety of media. The requirements they have to meet are just as diverse. Particularly in this area, in addition to tried-and-tested standard solutions, entirely new product developments are required. ebm-papst has both the experience and the expertise to help you find the perfect solution to even the most advanced problems.

Most pumps are driven by asymmetric shaded-pole motors – which, depending on the application and ambient conditions, may also have a coated coil and Rast 5 connection. Submersible pumps for use in beverage tapping units are produced with the external rotor motor in the form of an AC motor with operating capacitor. For dynamic applications, pumps with internal rotor motor are the right choice.

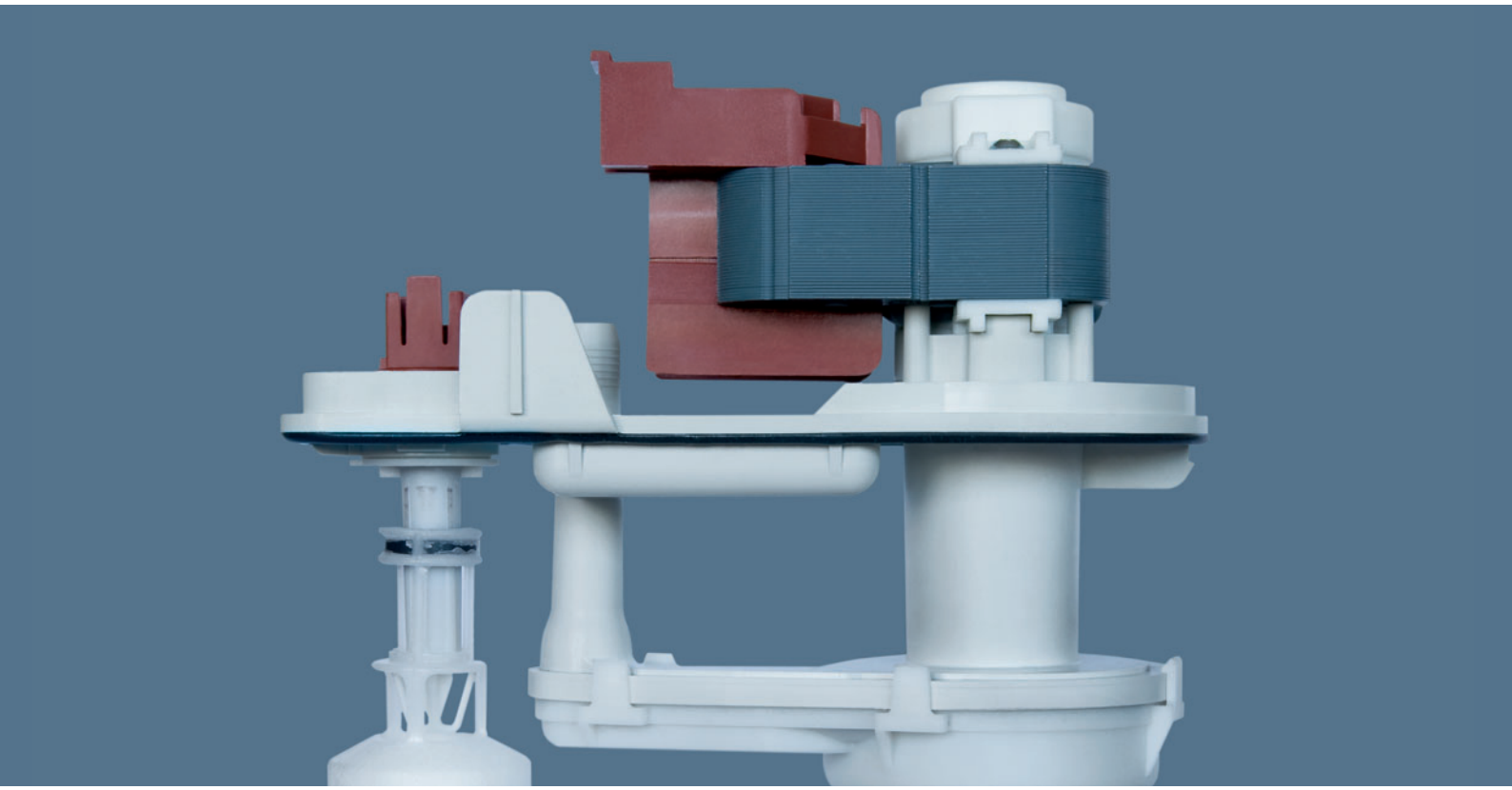
Our GreenTech EC technology gives the pumps a significant increase in efficiency and highly useful additional functions with electronic control and infinite controllability.

All the facts at a glance

- Large pump selection for specially defined applications
- Also available with asymmetric shaded-pole motor with coated motor coil and Rast 5 connection
- Wide motor range including asymmetric shaded-pole motors, single-phase AC external rotor motors and GreenTech EC motors

Technical values	
Voltage range:	115, 230 VAC
Flow rate:	10–12 l/min
Power input:	22–125 W

The best example: Condensate pump P 11



We have designed the condensate pump P 11 specially for a renowned white goods manufacturer. Where it is used: a newly designed heat pump dryer, which uses some 50 % less energy than conventional dryers thanks to its innovative energy recovery concept. The requirements for the condensate pump were correspondingly stringent. For example, improved seals ensure that even at high internal pressure the condensate is discharged into the wastewater only, not into the room air. Special lubricants in the sintered bearing ensure smooth running over a long period. A built-in level monitor that shuts off the machine automatically when the water level is critical reliably prevents disasters. Tried-and-tested shaded-pole technology is used for the motor. It guarantees sufficient start-up torque from every rotor position, long service life and low manufacturing costs. Thus we have found the ideal solution for this application as well.

ebm-papst in Germany

Germany

ebm-papst
Mulfingen GmbH & Co. KG

Bachmühle 2
D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com

www.ebmpapst.com

ebm-papst
St. Georgen GmbH & Co. KG

Hermann-Papst-Straße 1
D-78112 St. Georgen
Phone +49 7724 81-0
Fax +49 7724 81-1309
info2@de.ebmpapst.com

www.ebmpapst.com

ebm-papst
Landshut GmbH

Hofmark-Aich-Straße 25
D-84030 Landshut
Phone +49 871 707-0
Fax +49 871 707-465
info3@de.ebmpapst.com

www.ebmpapst.com

Agencies

Berlin
Dipl.-Ing. (TH) Jens Duchow
Händelstraße 7
D-16341 Panketal
Phone +49 30 944149-62
Fax +49 30 944149-63
Jens.Duchow@de.ebmpapst.com

Bielefeld
Dipl.-Ing. (FH) Wolf-Jürgen Weber
Niehausweg 13
D-33739 Bielefeld
Phone +49 5206 91732-31
Fax +49 5206 91732-35
Wolf-Juergen.Weber@de.ebmpapst.com

Dortmund
Dipl.-Ing. (FH) Hans-Joachim Pundt
Auf den Steinern 3
D-59519 Möhnesee-Völlinghausen
Phone +49 2925 800-407
Fax +49 2925 800-408
Hans-Joachim.Pundt@de.ebmpapst.com

Frankfurt
Dipl.-Ing. Christian Kleffmann
Dr.-Hermann-Krause-Straße 23
D-63452 Hanau
Phone +49 6181 1898-12
Fax +49 6181 1898-13
Christian.Kleffmann@de.ebmpapst.com

Halle
Dipl.-Ing. (TU) Michael Hanning
Lerchenweg 4
D-06120 Lieskau
Phone +49 345 55124-56
Fax +49 345 55124-57
Michael.Hanning@de.ebmpapst.com

Hamburg
Ingenieurbüro Breuell GmbH
Ing. Dirk Kahl
Elektroingenieur
Grützmühlenweg 40
D-22339 Hamburg
Phone +49 40 538092-19
Fax +49 40 538092-84
Dirk.Kahl@de.ebmpapst.com

Kassel
Dipl.-Ing. (FH) Ralph Brück
Hoherainstraße 3 b
D-35075 Gladenbach
Phone +49 6462 4071-10
Fax +49 6462 4071-11
Ralph.Brueck@de.ebmpapst.com

Koblenz
Winfried Schaefer
Hinter der Kirch 10
D-56767 Uersfeld
Phone +49 2657 16-96
Fax +49 2657 16-76
Winfried.Schaefer@de.ebmpapst.com

Munich
Dipl.-Wirtsch.-Ing. (FH) Jens Peter
Uhlandstraße 6
D-74427 Fichtenberg
Phone +49 7971 260-180
Fax +49 7971 260-221
Jens.Peter@de.ebmpapst.com

Nuremberg
Friedrich Klein
Adlerstraße 49/1
D-73540 Heubach
Phone +49 7173 4983
Fax +49 7173 8053
Friedrich.Klein@de.ebmpapst.com

Offenburg
Dipl.-Ing. (FH) Ralf Braun
Hubeneck 21
D-77704 Oberkirch
Phone +49 7802 9822-52
Fax +49 7802 9822-53
Ralf.Braun@de.ebmpapst.com

Stuttgart
Dipl.-Ing. (FH) Rudi Weinmann
Hindenburgstraße 100/1
D-73207 Plochingen
Phone +49 7153 9289-80
Fax +49 7153 9289-81
Rudi.Weinmann@de.ebmpapst.com

Ulm
Dipl.-Wirtsch.-Ing. (FH) Axel Resch
Bachmühle 2
D-74673 Mulfingen
Phone +49 7938 81-7092
Fax +49 7938 81-110
Axel.Resch@de.ebmpapst.com

Distributors

Frankfurt
R.E.D. Handelsgesellschaft mbH
Gutenbergstraße 3
D-63110 Rodgau - Jügesheim
Phone +49 6106 841-0
Fax +49 6106 841-111
info@red-elektromechanik.de
www.red-elektromechanik.de

Hamburg
Breuell + Hilgenfeldt GmbH
Grützmühlenweg 40
D-22339 Hamburg
Phone +49 40 538092-20
Fax +49 40 538092-84
info@breuell-hilgenfeldt.de

Munich
A. Schweiger GmbH
Ohmstraße 1
D-82054 Sauerlach
Phone +49 8104 897-0
Fax +49 8104 897-90
info@schweiger-gmbh.de
www.schweiger-gmbh.com

● *Express* **Service-Center** (1 to 5 pieces)

North
Breuell + Hilgenfeldt GmbH
Grützmühlenweg 40
D-22339 Hamburg
Phone +49 40 538092-20
Fax +49 40 538092-84
ebmpapst@breuell-hilgenfeldt.de

South
HDS Ventilatoren Vertriebs GmbH
Glaswiesenstraße 1
D-74677 Dörzbach
Phone +49 7937 8033520
Fax +49 7937 8033525
info@hds-gmbh.net

ebm-papst in Europe

Europe

Austria
ebm-papst Motoren & Ventilatoren GmbH
Straubingstraße 17
A-4030 Linz
Phone +43 732 321150-0
Fax +43 732 321150-20
info@at.ebmpapst.com
www.ebmpapst.at

Belarus
ebm-papst Bel AgmbH
P.O. Box 117
BY-220138 Minsk
Phone +375 17 3851556
Fax +375 17 3851556
info@by.ebmpapst.com
www.ebmpapst.by

Belgium
ebm-papst Benelux B.V.
Sales office Belgium-Luxemburg
Romeinsestraat 6/0101
Research Park Haasrode
B-3001 Heverlee-Leuven
Phone +32 16 396-200
Fax +32 16 396-220
info@be.ebmpapst.com
www.ebmpapst.be

Bulgaria
ebm-papst Romania S.R.L.
Str. Tirnavei Nr. 20
RO-500327 Brasov
Phone +40 268 312-805
Fax +40 268 312-805
dudasludovic@xnet.ro

Croatia
ebm-papst Industries Kft.
Ezred u. 2.
H-1044 Budapest
Phone +36 1 8722-190
Fax +36 1 8722-194
office@hu.ebmpapst.com

Czech Republic / Slovakia
ebm-papst CZ s.r.o.
Kaštanová 34a
CZ-620 00 Brno
Phone +420 547 232-617
Fax +420 547 232-622
info@ebmpapst.cz
www.ebmpapst.cz

Denmark
ebm-papst Denmark ApS
Vallensbækvej 21
DK-2605 Brøndby
Phone +45 43 631111
Fax +45 43 630505
mail@dk.ebmpapst.com
www.ebmpapst.dk

Estonia
ebm-papst Oy, Eesti Filiaal
Kesk tee 13
Aaviku küla, Jüri Tehnopark
EST-75301 Rae Vald, Harjumaa
Phone +372 65569-78
Fax +372 65569-79
www.ebmpapst.ee

Finland
ebm-papst Oy
Puistotie 1
FIN-02760 Espoo
Phone +358 9 887022-0
Fax +358 9 887022-13
mailbox@ebmpapst.fi
www.ebmpapst.fi

France
ebm-papst SARL
ZI Nord - rue A. Mohler
BP 62
F-67212 Obernai-Cedex
Phone +33 820 326266
Fax +33 3 88673883
info@ebmpapst.fr
www.ebmpapst.fr

Greece
Helcoma
Th. Rotas & Co OE
Davaki 65
GR-17672 Kallithea-Attiki
Phone +30 210 9513-705
Fax +30 210 9513-490
contact@helcoma.gr
www.helcoma.gr

Hungary
ebm-papst Industries Kft.
Ezred u. 2.
H-1044 Budapest
Phone +36 1 8722-190
Fax +36 1 8722-194
office@hu.ebmpapst.com

Iceland
RJ Engineers
Stangarhyl 1A
IS-110 Reykjavik
Phone +354 567 8030
Fax +354 567 8015
rj@rj.is
www.rj.is

Ireland
ebm-papst Limited
Portlaoise Business & Technology Park
Mountrath Road
IRL-Portlaoise, Co. Laois
Phone +353 5786 643-43
Fax +353 5786 643-46
sales@ie.ebmpapst.com
www.ebmpapst.ie

Italy
ebm-papst Srl
Via Cornaggia 108
I-22076 Mozzate (Co)
Phone +39 0331 836201
Fax +39 0331 821510
info@it.ebmpapst.com
www.ebmpapst.it

Macedonia
ebm-papst Industries Kft.
Ezred u. 2.
H-1044 Budapest
Phone +36 1 8722-190
Fax +36 1 8722-194
office@hu.ebmpapst.com

ebm-papst in Europe

Netherlands
ebm-papst Benelux B.V.
Engelseweg 127
NL-5705 AC Helmond
Phone +31 492 502-900
Fax +31 492 502-950
verkoop@nl.ebmpapst.com
www.ebmpapst.nl

Norway
ebm-papst AS
P.B. 173 Holmlia
N-1203 Oslo
Phone +47 22 763340
Fax +47 22 619173
mailbox@ebmpapst.no
www.ebmpapst.no

Poland
ebm-papst Polska Sp. z o.o.
ul. Annopol 4A
PL-03236 Warszawa
Phone +48 22 6757819
Fax +48 22 6769587
office@ebmpapst.pl
www.ebmpapst.pl

Portugal
ebm-papst (Portugal), Lda.
Centro Empresarial de Alverca
Rua de Adarse, Vale D'Ervas
Corpo D / Fracção 3
P-2615-178 Alverca do Ribatejo
Phone +351 218 394 880
Fax +351 218 394 759
info@pt.ebmpapst.com
www.ebmpapst.pt

Romania
ebm-papst Romania S.R.L.
Str. Tirnavei Nr. 20
RO-500327 Brasov
Phone +40 268 312-805
Fax +40 268 312-805
dudasludovic@xnet.ro

Russia
ebm-papst Ural GmbH
Posadskaja-Strasse, 23(E), 3
RU-620102 Ekaterinburg
Phone +7 343 2338000
Fax +7 343 2337788
Konstantin.Molokov@ru.ebmpapst.com
www.ebmpapst.ur.ru

ebm-papst Rus GmbH
proezd 4529, vladenie 5, stroenie 1
RU-141000 Mytistschi, Oblast Moskau
Phone +7 495 9807524
Fax +7 495 5140924
info@ebmpapst.ru
www.ebmpapst.ru

Serbia & Montenegro
ebm-papst Industries Kft.
Ezred u. 2.
H-1044 Budapest
Phone +36 1 8722-190
Fax +36 1 8722-194
office@hu.ebmpapst.com

Spain
ebm-papst Ibérica S.L.
Avda. del Sistema Solar, 29
E-28830 San Fernando de Henares (Madrid)
Phone +34 91 6780894
Fax +34 91 6781530
ventas@ebmpapst.es

Sweden
ebm-papst AB
Äggelundavägen 2
S-17562 Järfälla
Phone +46 8 7619400
Fax +46 8 362306
info@ebmpapst.se
www.ebmpapst.se

Switzerland
ebm-papst AG
Rütisbergstrasse 1
CH-8156 Oberhasli
Phone +41 44 73220-70
Fax +41 44 73220-77
verkauf@ebmpapst.ch
www.ebmpapst.ch

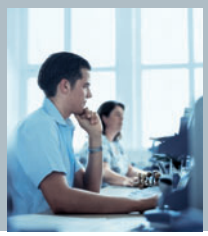
Turkey
Akantel Elektronik San. Tic. LTD. Sti.
Atatürk Organize Sanayi
Bölgesi 10007 SK. No.:6
TR-35620 Cigli-Izmir
Phone +90 232 3282090
Fax +90 232 3280270
akantel@akantel.com.tr
www.ebmpapst.com.tr

Ukraine
ebm-papst Ukraine LLC
Lepse Boulevard, 4, Building 47
UA-03067 Kiev
Phone +38 044 2063091
Fax +38 044 2063091
mail@ebmpapst.ua
www.ebmpapst.ua

United Kingdom
ebm-papst UK Ltd.
Chelmsford Business Park
GB-Chelmsford Essex CM2 5EZ
Phone +44 1245 468555
Fax +44 1245 466336
sales@uk.ebmpapst.com
www.ebmpapst.co.uk

ebm-papst Automotive & Drives (UK) Ltd.
The Smithy
Fidlers Lane
GB-East Ilsley, Berkshire RG20 7LG
Phone +44 1635 2811-11
Fax +44 1635 2811-61
A&Dsales@uk.ebmpapst.com
www.ebmpapst-ad.com

ebm-papst in America and Africa



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America

Argentina
ebm-papst de Argentina S.A.
Hernandarias 148 Lomas del Mirador
Pcia. de Buenos Aires (1752)
Phone +54 11 46576135
Fax +54 11 46572092
ventas@ar.ebmpapst.com
www.ebmpapst.com.ar

Brasil
ebm-papst Motores Ventiladores Ltda.
Av. José Giorgi, 301 Galpões B6+B7
Condominio Logical Center
BR-06707-100 Cotia - São Paulo
Phone +55 11 4613-8700
Fax +55 11 3164-8924
vendas@br.ebmpapst.com
www.ebmpapst.com.br

Canada
ebm-papst Canada Inc.
1800 Ironstone Manor, Unit 2
CDN-Pickering, Ontario, L1W3J9
Phone +1 905 420-3533
Fax +1 905 420-3772
sales@ca.ebmpapst.com
www.ebmpapst.ca

Mexico
ebm Industrial S.de R.L. de C.V.
Paseo de Tamarindos 400-A-5to Piso
Col. Bosques de las Lomas
MEX-Mexico 05120, D.F.
Phone +52 55 3300-5144
Fax +52 55 3300-5243
sales@mx.ebmpapst.com
www.ebmpapst.com.mx

USA
ebm-papst Inc.
P.O. Box 4009
100 Hyde Road
USA-Farmington, CT 06034
Phone +1 860 674-1515
Fax +1 860 674-8536
sales@us.ebmpapst.com
www.ebmpapst.us

ebm-papst Automotive & Drives, Inc.
3200 Greenfield, Suite 255
USA-Dearborn, MI 48120
Phone +1 313 406-8080
Fax +1 313 406-8081
automotive@us.ebmpapst.com
www.ebmpapst-automotive.us

Africa

South Africa
ebm-papst South Africa (Pty) Ltd.
P.O. Box 3124
1119 Yacht Avenue
ZA-2040 Honeydew
Phone +27 11 794-3434
Fax +27 11 794-5020
info@za.ebmpapst.com
www.ebmpapst.co.za

ebm-papst in Asia and Australia

Asia

China
ebm-papst Ventilator (Shanghai) Co., Ltd.
No. 418, Huajing Road
WaiGaoQiao Free Trade Zone
No. 2001, Yang Gao (N) Road
VRC-200131 Shanghai, P.R. of China
Phone +86 21 5046-0183
Fax +86 21 5046-1119
sales@cn.ebmpapst.com
www.ebmpapst.com.cn

Hong Kong
ebm-papst Hong Kong Ltd.
Unit No. 13,9 / F
Technology Park, 18 On Lai Street
Siu Lek Yuen, Shatin N.T.
Hong Kong - P.R. of China
Phone +852 2145-8678
Fax +852 2145-7678
info@hk.ebmpapst.com

India
ebm-papst India Pvt. Ltd.
26/3, G.N.T. Road, Erukkencherry
IND-Chennai-600118
Phone +91 44 25372556
Fax +91 44 25371149
sales@in.ebmpapst.com
www.ebmpapst.in

Indonesia
ebm-papst Indonesia
Representative Office
German Centre, 4th Floor, Suite 4470
Jl. Kapt. Subijono Dj. Bumi Serpong Damai
RI-15321 Tangerang
Phone +62 21 5376250
Fax +62 21 5388305
salesdept@id.ebmpapst.com

Israel
Polak Bros. Import Agencies Ltd.
9 Hamefalsim Street
IL-Kiryat Arie, Petach-Tikva 49514
Phone +972 3 9100300
Fax +972 3 5796679
polak@polak.co.il
www.polak.co.il

Japan
ebm-papst Industries Japan K.K.
12 Floor, Benex S-3 Bldg.
3-20-8 Shinyokohama, Kohoku-ku
J-222-0033 Yokohama
Phone +81 45 47057-51
Fax +81 45 47057-52
info@jp.ebmpapst.com
www.ebmpapst.jp

Korea
ebm-papst Korea Co. Ltd.
6F, Trutec Bldg.
B 6-2, Digital Media City (DMC)
Sangam-Dong, Mapo-Gu
ROK-Seoul 121-270
Phone +82 2 366213-24
Fax +82 2 366213-26
info@kr.ebmpapst.com
www.ebmpapst.co.kr

Malaysia
ebm-papst Malaysia
Representative Office
Unit 12-2, Jalan USJ Sentral 3
Persiaran Subang, Selangor Darul Ehsan
MAL-47600 Subang Jaya
Phone +60 3 8024-1680
Fax +60 3 8024-8718
salesdept@my.ebmpapst.com

Singapore
ebm-papst SEA Pte. Ltd.
No. 23 Ubi Road 4
#06-00 Olympia Industrial Building
SGP-Singapore 408620
Phone +65 65513789
Fax +65 68428439
salesdept@sg.ebmpapst.com

Taiwan
ETECO Engineering & Trading Corp.
10F-I, No. 92, Teh-Wei Str.
RC-Tsow-Inn District, Kaohsiung
Phone +886 7 557-4268
Fax +886 7 557-2788
eteco@ms22.hinet.net
www.ebmpapst.com.tw

Thailand
ebm-papst Thailand Co., Ltd.
99/349 Na-Nakorn Bldg., 4th Floor
Chaeng Wattana Road, Thungsonghong,
THA-10210 Laksi, BKK
Phone +66 2 57615-24
Fax +66 2 57615-42
salesdept@th.ebmpapst.com

United Arab Emirates
ebm-papst Middle East FZE
PO Box 17755
Jebel Ali Free Zone / FZS1 / AP05
UAE-Dubai
Phone +971 4 88608-26
Fax +971 4 88608-27
info@ae.ebmpapst.com
www.ebmpapst.ae

Vietnam
ebm-papst Vietnam
Representative Office
Room #102, 25 Nguyen Van Thu Street
District 1
VN-Ho Chi Minh City
Phone +84 8 39104099
Fax +84 8 39103970
linh.nguyen@vn.ebmpapst.com

Australia

Australia
ebm-papst A&NZ Pty Ltd.
10 Oxford Road
AUS-Laverton North, Victoria, 3026
Phone +61 3 9360-6400
Fax +61 3 9360-6464
sales@ebmpapst.com.au
www.ebmpapst.com.au

New Zealand
ebm-papst A&NZ Pty Ltd.
102 Henderson Valley Road
NZ-Henderson, Auckland 1230
Phone +64 9 837-1884
Fax +64 9 837-1899
sales@ebmpapst.com.au
www.ebmpapst.com.au

37653-7-8811 wob 10/10 3'

ebm-papst
Mulfingen GmbH & Co. KG

Bachmühle 2
D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com

ebm-papst
St. Georgen GmbH & Co. KG

Hermann-Papst-Straße 1
D-78112 St. Georgen
Phone +49 7724 81-0
Fax +49 7724 81-1309
info2@de.ebmpapst.com

ebm-papst
Landshut GmbH

Hofmark-Aich-Straße 25
D-84030 Landshut
Phone +49 871 707-0
Fax +49 871 707-465
info3@de.ebmpapst.com

www.ebmpapst.com

ebmpapst