

HAVENTIC

Setting air in motion





moving ideas

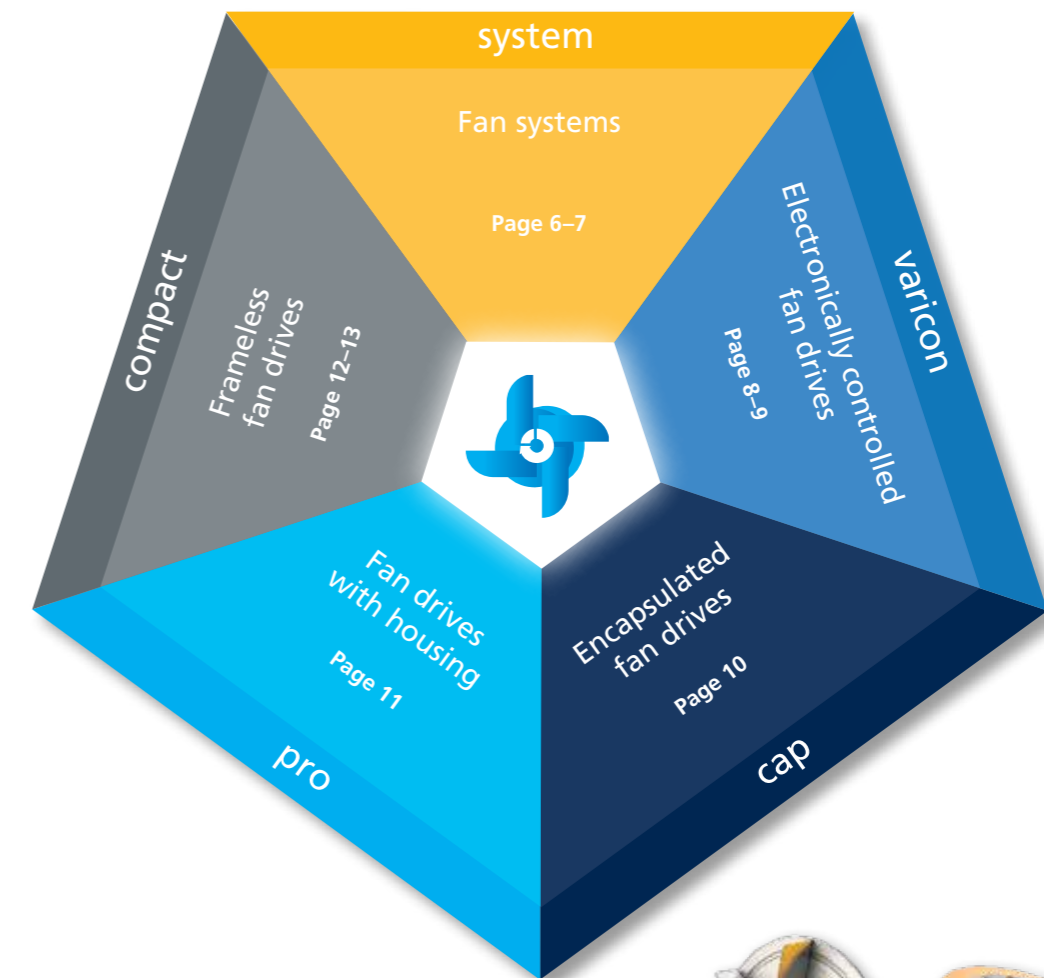
Life is movement – something we have been infusing in the products of our customers for more than 75 years. Based on our slogan “moving ideas”, we at HANNING ELEKTRO-WERKE develop drive concepts and manufacture customized solutions that will put you ahead of the competition. As one of the leading manufacturers of electric and electronic drive systems and components in the world, that is our promise to you.

Global presence is a decisive factor for success: We have an international production network with production facilities in Germany, Romania and India. In addition to that, HANNING has qualified sales partners worldwide. That ensures we are readily available all over, offering first-class service around the globe and bringing our international market and industry expertise for you into play.

A customized fan drive from HANNING ensures that you always have a strong tailwind. Whether the environment is hot or cold, wet, extremely dry or contaminated with chemicals: **haventic** fan motors from HANNING ELEKTRO-WERKE overcome all types of ventilation requirements. The main advantage of the **haventic** product line is its fitting accuracy. We tailor the service life and chemical and temperature resistance of all components to your requirements – for hot air ovens, livestock buildings, soldering systems and many more. In this way, we help you get ahead of the competition.

Solutions made to measure: haventic

haventic is more than just a product. This name stands for an entire set of diverse product variations with a precise structure and clearly arranged product lines to help you figure out which product suits your needs.



Good to know

At your request, we will obtain the following approvals on your behalf:

- CCC
- TÜV
- UL

Matching fan wheels made of stainless steel are available for all **haventic** fan drives. This material is able to withstand temperatures of up 350 °C easily. Even extreme temperature changes, for instance when sprayed with cold water, do not affect our rugged impellers. As a result, they completely satisfy the industrial requirements, e.g., in the food processing industry. Every **haventic** fan drive can be equipped with special shaft ends (e.g. cylindrical or conical) to accommodate the fan wheel.

Increasing energy efficiency – reducing costs

Energy efficiency is a pressing need of our age – which **haventic** can easily fulfill: **haventic** synchronous fan drives operate with high efficiency. This way, you decrease costs and increase your productivity. Moreover, our drives help protect the environment – a benefit for your image that should not be underestimated.



Fan motors at a glance

Space-saving design, high-efficiency drives, plenty of power in a compact package, ideal for convection and baking oven and many other applications

Electric drive systems form the link between the power supply and the mechanical operations that require energy. Drive systems, especially electric motors, account for far more than 60 % of the industry’s entire electricity consumption. Here it is possible to increase energy efficiency by 20 to 30 %.

That is why priority must be given to using energy-saving drives to ensure the market success of your systems or equipment. HANNING ELEKTRO-WERKE offers a wide variety of solutions, matured through intensive research and development. In this regard, our product portfolio ranges from motors with improved efficiency on average and cost-effective purchase price through to extremely energy-efficient drives.

Which variation is worth considering on your part depends on your application and the total costs of ownership over its life cycle. To this end, we offer you the entire spectrum of customized drive solutions – from compact and economical through to high-efficiency drives for especially efficient long-term use. This will help you successfully distinguish yourself on the market with HANNING quality products.

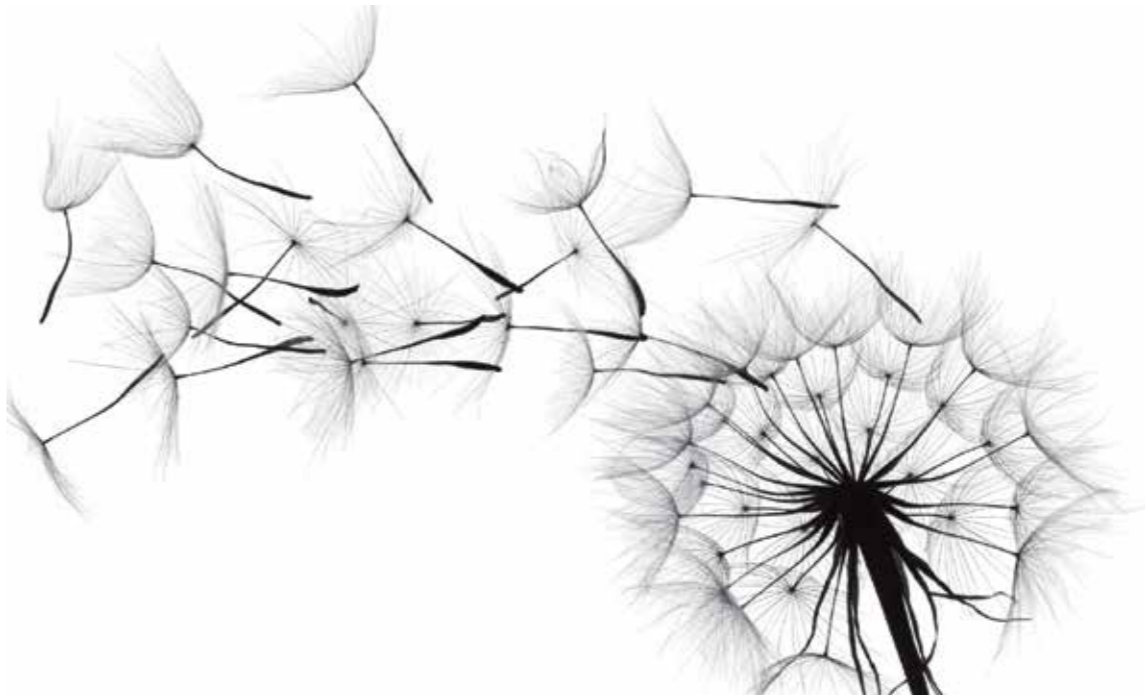


Optimized for efficiency

Efficiency stands for getting the maximum out of the minimum. And that is precisely what the **haventic** fan drives from HANNING do. The motor units are compact and save space. They pack lots of power in a small unit, leaving extra space as useful area, be it in convection or backing ovens or other applications.

With their high energy efficiency rating, **haventic** synchronous fan drives surpass the European requirements for fan efficiency classes. Less power consumption, lower costs, high output - that is our formula for success for you.

The highly compact design of these motors allows you to tap exceptional efficiency. Therefore, they are optimally equipped to satisfy all energy efficiency guidelines. That is a benefit you get with all variations of **haventic** fan drives. They provide fresh impetus to your cost/benefit analysis – and advantages that you can pass on to your customers.



haventic system – your application, your system

You have very specific, individual requirements that **haventic system** fulfills. **haventic system** is your solution for specific applications, precisely designed to your practical needs. The suffix “system” stands for production based on maximum customization.

Your advantage: You get a fan unit that is designed precisely to your requirements – and additionally handles other, more complex functions. For instance, we will integrate parts of your end product in the **haventic system** product. That streamlines your production process, saves time, reduces costs and increases your value added.

At a glance

haventic system:

Fan systems of synchronous and asynchronous design

Application fields:

Hot air ovens, convection ovens, industrial microwaves, baking ovens, livestock buildings, climatic chambers and more

Advantage/benefit:

Complete, ready-to-install solutions from a single source

Technical specifications:

According to customer specification

Options:

According to customer specification



Success story I:

It's a piece of cake
HANNING delivers this haventic system fan motor already equipped with part of the oven's rear panel. A ready-to-install solution – even the fan wheel is included.

As supplier of individual solutions, HANNING ELEKTRO-WERKE possesses technological know-how, industry expertise and an extensive in-house production – be it for industrial hot air applications or ventilation solutions. At HANNING you get development, production and distribution from a single source. The result for you is an optimally tuned fan motor.

The following select example will show you how this principle works.

Fan motor with rear panel of unit

Manufacturing an industrial oven or cooking appliance is usually a complicated process. For instance, the motor and the fan wheel must be installed separately in conventional products. With our **haventic system**, however, the rear panel of the product is integrated in the fan, even the thermal insulation in the cooking chamber and the optimally balanced fan wheel are also factory-installed. The customer only needs to install one part!

This **haventic system** solution is especially suited for hot air applications used in the food processing industry.

haventic varicon – more than hot air

When it comes to hot air applications, we frequently recommend a complete solution that integrates several parts into one component. **haventic varicon** offers you synchronous fan systems with built-in frequency inverter and other electronic components. Ideal for hot air ovens or even livestock ventilation systems.

In all hot air drive combinations consisting of the **haventic varicon**, the electronic modules are already connected completely to the motor. That means for you: no extra wiring needed and optimum electromagnetic compatibility.

At a glance

haventic varicon:

Synchronous fan drives with integrated frequency inverter

Application fields:

Hot air ovens, convection ovens, industrial microwaves, baking ovens, livestock buildings, climatic chambers and more

Advantage/benefit:

Minimum installation requirements thanks to completely preprogrammed electronic module

Technical specifications:

Shaft output up to 450 W,
Ambient temperature 70 °C

Options:

Continuously variable speed control, status request (e.g. motor temperature, speed, torque) and more



Success story 2:

The hot air specialist
High efficiency, small dimensions, and variable speed are just some of the strengths offered by this haventic varicon solution. It is especially suited for hot air applications in ovens used in the food service sector.

Moreover, the **haventic varicon** is specifically designed for your demand. Depending on the requirements, drive and electronic module and other components are tailored to the respective task. That starts with the design dimensions of the motors, which are extremely compact and matched to the device's shape. Thus, you gain valuable useful space for your application. The software for the electronic module is geared precisely to your oven as well. Modbus or digital and analog systems or serial interfaces are available to facilitate the connection to your higher-level control system.

Other options are also available: continuously variable speed control, status request of motor temperature, speed and torque and much more – depending on what you need.

EC fan motor

This **haventic varicon** fan motor is manufactured to ensure a perfect fit. We adapt service life and temperature resistance precisely to match your specific requirements. Our latest technological synchronous solution with maximum efficiency and extremely small form ensures that you are optimally equipped for the future.

As with all **haventic varicon** solutions, the electronic modules are already integrated. The frequency inverters are designed for high ambient temperatures and for high air humidity and can be precisely adapted to the fan motors.

The outcome is a compact integrated solution variable in terms of design with UL and TÜV certification and wide range input voltage. As a result, they fulfill the industry standards of all relevant markets and can significantly reduce the number of equipment variations.

TECHNICAL SPECIFICATIONS AT A GLANCE

Shaft output: **450 W**
Overall length: **102 mm**
Ambient temperature: **70 °C**

haventic cap – safely covered

haventic cap motors are specially encapsulated. As a result, they are extremely versatile and rugged – and thus are ideally equipped for demanding tasks: From traditional livestock building ventilation and central ventilation systems and air circulation systems through to industrial soldering stations, they have proven to be the right choice.



At a glance

haventic cap:
Encapsulated fan drives of asynchronous and synchronous design

Application fields:
Livestock ventilation, soldering systems and more

Advantage/benefit:
Especially rugged and maximum protection against environmental influences

Technical specifications:
Shaft output up to 2.5 kW, IP66 protection rating

Options:
Diverse shaft ends, various fan wheels and more

Success story 3:

The invulnerable module
Even though there may be dust, bad odors, dirt and extreme humidity or a jet stream coming from a high-pressure cleaner, the special fan motor haventic cap continues to work flawlessly.

Synchronous motor for fan drives

Dust, humidity, aggressive atmospheres – all of that can do no harm to the special motor of our **haventic cap** line. High-quality motor housings in conjunction with special seals protect the drives against environmental influences and make high protection classes of up to IP66 possible. This allows them to achieve maximum efficiency in EC motors and to vary their speeds.



haventic pro – well protected

The high-quality housings also make the **haventic pro** fan motors very rugged and durable. Are your application environments particularly demanding? No problem. **haventic pro** can be adapted to withstand higher ambient temperatures and special environmental conditions.

Be it waterproof or resistant to dust or chemicals: **haventic pro** fulfills protection ratings of up to IP54.



Success story 4:

The soldering specialist
This haventic pro fan motor withstands hot air temperatures, its housing protects it from rosin vapors. As a result, it is especially suited for soldering lines and comparable applications.

What are the technical details that make the **haventic pro** so strong? Special shaft materials, hollow shafts and coatings – for instance, hard coatings for seal seats – ensure a high degree of durability.

At a glance

haventic pro:
Asynchronous and synchronous fan drives with housing

Application fields:
Livestock ventilation and central ventilation systems, soldering systems and more

Advantage/benefit:
Rugged and temperature-resistant

Technical specifications:
IP54 protection rating, ambient temperature 70 °C

Options:
Diverse shaft ends, various fan wheels and more

L7 asynchronous fan motor

This fan motor withstands temperatures of up to 350 °C, occurring at the end of the shaft. That is possible thanks to the mounting brackets, intermediate fans and special ball bearings with high-temperature grease, which ensures a long service life.

The drive is equipped with hollow shafts made of diverse shaft materials and hard coatings for seal seats. It achieves speeds of up to 3,600 min⁻¹ and operates using standard frequencies of 50/60 Hz, unless it is controlled by a frequency inverter.

haventic compact – plenty of air, little motor

All **haventic** fan drives are basically compact. With **haventic compact** HANNING has gone one step further, producing an impressive unit with extremely small dimensions. The result is frameless fan motors in synchronous or asynchronous design that are as small as feasibly possible and as versatile as the customer requirements allow.

At a glance

haventic compact:

Frameless fan drives with synchronous and asynchronous technology

Application fields:

Hot air ovens, convection ovens, industrial microwaves, conventional ovens, livestock buildings, climatic chambers and more

Advantage/benefit:

Extremely compact design

Technical specifications:

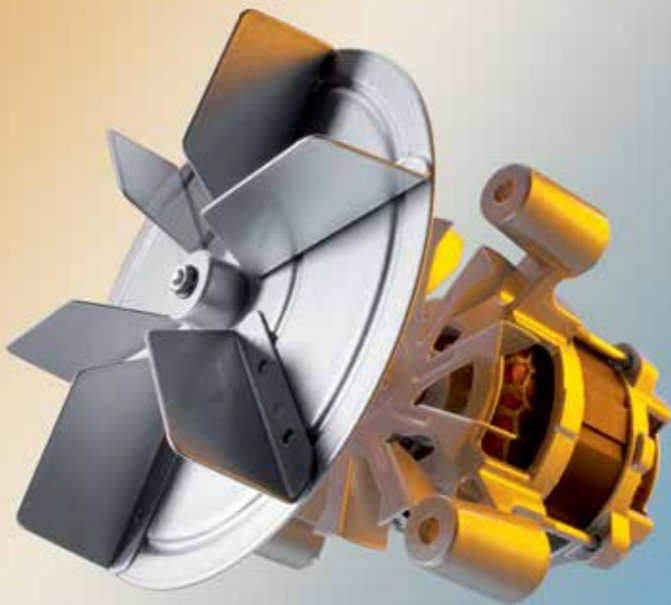
Shaft output of 15 W to 1,000 W, ambient temperature 70 °C

Options:

Speed sensor, diverse shaft ends, various fan wheels and more

haventic compact is ideal for all applications that do not have any specific safety requirements – i.e. protection against contact or humidity. Without housing, the **haventic compact** focuses on what is important – the fan motor – and thus saves a plenty of space. The extremely compact fan drives of the **haventic** line can be found in traditional hot air applications as well as in general ventilation systems such as livestock buildings and climatic chambers.

The motors themselves are designed for high ambient temperatures up to 70 °C, like those that typically occur in the installation space of ovens. A specially developed cooling technology and high-temperature grease make the **haventic compact** especially durable. Even in asynchronous drives not equipped with frequency inverters, it is possible to achieve various speeds using a pole-changing control. Our new **haventic compact** EC motors with their high efficiency rating are ideal for applications where space is a premium aspect.



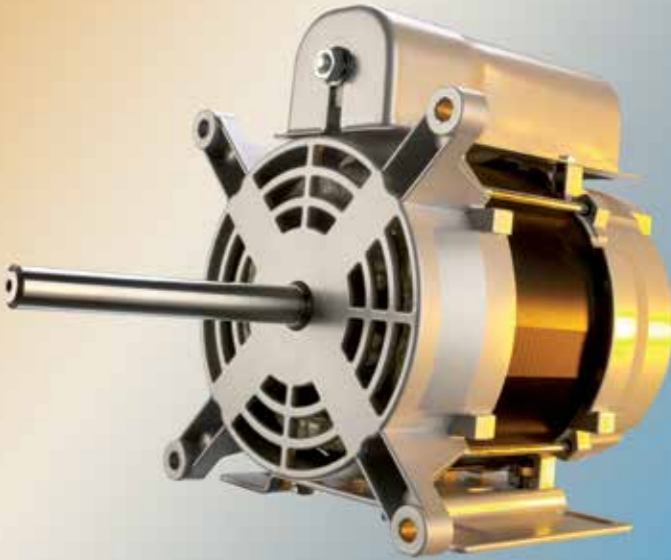
Success story 5:

The master baker

Our haventic compact fan motors are frequently implemented in bakeries specializing in artisan breads and rolls.

L5 fan motor

With its compact dimensions and dependably high output, the L5 **haventic compact** fan motor is the right choice for all applications where every square centimeter of useful space is important. That is why they are used to a large extent in baking ovens that can frequently be found in cafeterias, grocery stores and small food outlets, etc. Here they ensure a uniform air circulation in the baking chamber.



Success story 6:

The master of adaptation

Every market and every region has their own general requirements which we have been satisfying, for instance, with our special version designed for the US market.

L9 fan motor with capacitor

The capacitor, which is needed for operating single-phase motors, is mounted directly on the motor. That saves space and eliminates additional wiring in your unit. The cover also provides additional protection. Another benefit in terms of safety is the integrated speed monitoring module.



Also available from the compact product line:

The shaded-pole fan motor

This motor is suited primarily for small ovens: Simple and of particularly flat, space-saving design, it moves hot air in modern laboratory furnaces, ensuring that heat is distributed uniformly there.

haventic fan motors – fresh air for your success

If you are a manufacturer of hot air equipment or ventilation systems, then we have the right fan drives for you. Either customized specifically for your requirements or selected for you from our broad assortment. In this way, we strengthen your position on the market and improve the performance of your high-quality products.

Are you interested in drive solutions that optimally combine technology and efficiency? Then do not hesitate to contact us. We would be happy to advise and support you during development with our know-how, state-of-the-art measuring and testing equipment.





HANNING

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