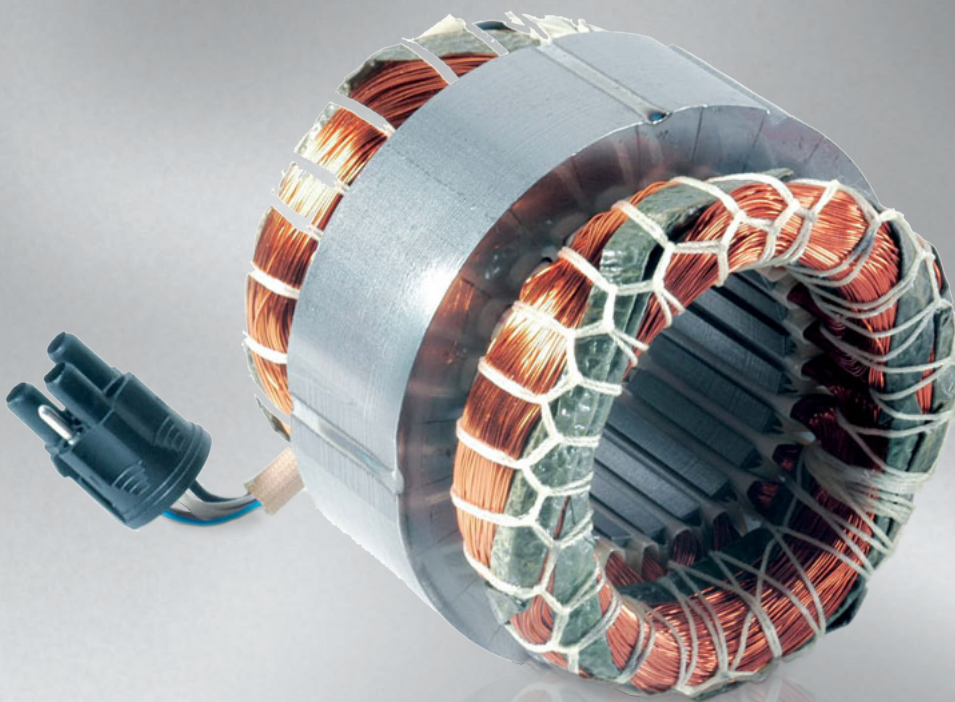




HALM

kompetente Antriebstechnologie

Customised drive solutions



Electric motors & systems ■ Drive components ■ Services



Halm – quality drive technology

Over 50 years of experience in developing electric motors with asynchronous technology and the production of over 15 million Halm drives speak for themselves.

Around the world, our customers include many international companies that for many years have valued Halm as a competent and flexible partner.

Our medium-sized family-owned company, based in the Greater Stuttgart area, employs more than 200 people at several locations across Europe.

All of them contribute to making Halm a robust and reliable partner. Our experience in the development of customised electric drives, manufactured to the highest quality in our flexible production facilities, has resulted in the growth of partnerships which have endured over many years.



Halm – a quality partner

We prioritise customised and market-oriented products as well as short and direct communication channels.

We are not just a manufacturer but primarily a partner to our customers, who want development and production to come from a single source.

Our product and company policies are characterised by equally high levels of continuity and flexibility for our customers. They form the solid basis and starting point of our national and international corporate and sales activities.



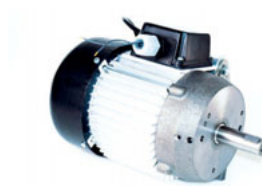
Electric motors and drive systems

The demands on industrial motors are more exacting than ever today. Whether they are integrated within production plants or customised drive systems, drives must be equipped with modern technologies and standards. They must also be flexible and capable of being deployed anywhere in the world.

Halm specialises in the manufacture of customised drive components and systems in order to meet these requirements.

We analyse our customers' needs, develop and produce the complete drive or the drive components, and where required integrate them within the specific application.

This is also the basis of our extensive range of services.



Overview electric motors and drive systems

Standard asynchronous motors with single-phase or three-phase winding

Type	Electric motor with aluminium housing
Area of use	Anywhere where industrial motors must be designed for specific drive set-ups Whenever complex functions require custom drive solutions
Power range	0.05 to 2.5 kW
Overall size	56-80
Structural form	Foot or flange mounting (combination possible)
Options	<ul style="list-style-type: none"> • 2-, 4-, 6-, 8-pole design • Switchable poles • Also available with flexible voltage ranges • Insulation classes B, F, and H • Standard IP54 protection, higher protective systems available • Special end shields • Sealed-in winding • Frequency inverter • CSA + UL design • External fan • Flywheel fan • Shaft encoder / tachogenerator • Incremental encoder • PTC resistor or thermal switch • Electrical brake, also with manual release • Second motor shaft end • Fan guard with rain shed • Gearing <p>Multiple options are possible</p>



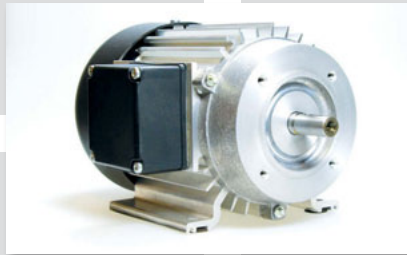
Modular design of Halm industrial motors

Customised options and equipment

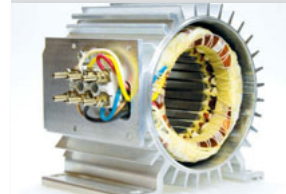
- Application-specific end shields
- Customer end shields with spec. function
- Special end shields on basis of IEC guidelines
- IEC end shields B3, B5, B14
- Aluminium / grey-cast iron / stainless steels
- Series and one-off production



- Special terminal box solutions
- Industry/special plug connections
- Electric circuits housed in terminal box, software-driven control electronics for start-up, rotational speed, and application-related motor characteristic curves
- Direct connection without terminal box



- Custom-tuning for the application
- Customised shaft connections
- Wedge bonds, toothing, surfaces, threads
- Application-oriented shaft seals
- Functional bearing solutions
- Special steels also available in series and one-off production



- Application-specific winding design
- Sealed-in version for increased requirements relating to vibration, temperature, moisture, outdoor use, resistance to sea water etc.
- Thermal protection with temperature-dependent switches and thermal sensor
- cULus approval with in-house UL insulation system

Frequency inverters

On request, Halm motors are also suitable for operation with frequency inverters. In the event of operation with a frequency inverter, we configure the motor to your requirements.



Brake / Gearing

We offer you the option of fitting our drives with a brake or gearing. Let us know your specifications and we will be happy to advise you on the design and selection.



UL certifications

Products which are exported are not generally subject to European safety regulations but must conform with applicable requirements in the import country. The American UL standard enjoys wide acceptance in this respect. UL (underwriters laboratories) certifies products in accordance with American safety regulations.

Halm has its own approved UL insulation system and can manufacture motors in accordance with our UL modular system with UL or cULus approval.



Insulation class: H

In their standard versions, Halm industrial motors and components feature insulation class F. We also offer insulation class H as an option. The insulating materials used here ensure an increase in thermal stability to 180. In practice, this increase provides you with the following benefits:

- Longer service life with equivalent thermal stresses compared to insulation class F
- Up to 20 % increase in performance at the same size compared to insulation class F
- Reduction in structural volume with the same performance

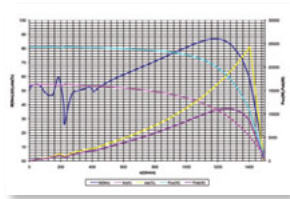
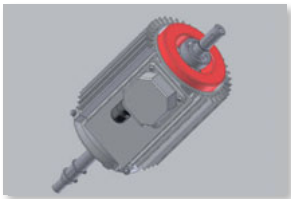
We take you above and beyond the standard

We are happy to pass on to you our experience of over five decades in the development and production of industrial motors and drive components to support you in solving your problems.

Working closely together with you, we develop and produce technically modern and economical drive solutions, no matter which industry you operate in.

Halm develops and manufactures your custom drive:

- Analysis of your set-up
- Concept development
- Interdisciplinary development (motor + electronics + software)
- Customised drive solution, bespoke mechanical configuration
- Cost-optimisation
- Constant support / further development over several device generations
- High vertical range of manufacture
- After-sales service
- Measuring lab, endurance testing
- Certification to DIN ISO 9001:2000
- Support/handling for national and international certifications
- Ask about our extensive industry expertise



Customised drives without housing



Customised drives without housing are used when the installation of motors with housings is not possible for reasons of space, primarily in the appliance industry and in industrial applications. Halm's drives without housing are squirrel-cage motors particularly notable for their robustness and maintenance-free operation.

Type	as per customer requirements
Area of use	Device installation
Power range	0.05 to 2.2 kW
Overall size	56, 63, 71, 80
Structural form	B3, B14

Further benefits of these drives are their

- space-saving design
- low weight
- low noise operation

Electric motors < IEC size 56

These electric motors are used when installation dimensions are too restrictive for motors of IEC size 56.

Halm drives are also available with patented cast resin technology. This technology enables higher thermal stresses, compact construction, and extremely quiet operation, without the need for motor housing.

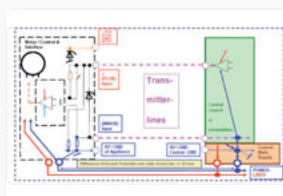
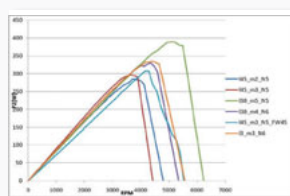
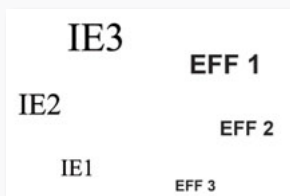


Type	With housing, without housing, open design
Area of use	Driving, lifting, positioning
Power range	0.02 to 0.15 kW
Overall size	< IEC 56
Structural form	Dependent on application

Synchronous technology (EC drives)

Type	Aluminium housing or without housing
Area of use	<ul style="list-style-type: none"> • Mechanical engineering • Packaging equipment • Conveyor and transport equipment • Vibrators and screening plants • Bulk handling plants • Fans and blowers • Liquid pumps • Pressure and vacuum pumps • Actuating drives, valves • Laboratory and medical technology
Power range	0.06 to 0.75 kW, other power ranges on request
Overall size	56-63, other sizes on request
Structural form	Foot or flange mounting (combination possible)
Options	<ul style="list-style-type: none"> • Customised winding design • Insulation classes B, F, and H • Special end shields • Cable connection without terminal box • Selectable communications interfaces • Motor characteristic curve configured for the application (e.g. start-up and load behaviour) • Various mains voltages

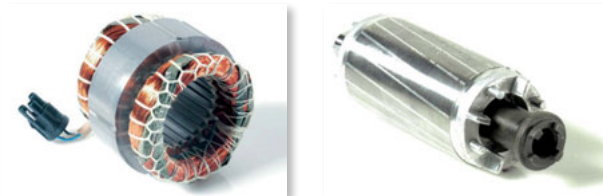
Wear-free, brushless DC motors together with software-controlled electronics are the key to optimum drive solutions with high energy efficiency. The benefits of Halm EC drives are multi-purpose control functions for start-up, rotational speed/torque, custom safety functions, and selectable communications interfaces configured for your specific application.



Drive components

If you do not require a complete drive but only individual components, Halm is the right partner for you.

Halm built-in motors – flexible asynchronous motor components – consist of the wound stator and a rotor to your requirements.



Type	Customised
Area of use	Actuating drives, conveyor equipment, drives in devices, medical and analytical technology, packaging systems, vibrators and compacting systems, compressed air and vacuum technology.
Power range	0.06 to 7.5 kW
Overall size	56-112
Options	<ul style="list-style-type: none"> • 2-, 4-, 6-, 8-, 12-pole design • Switchable poles • Also available with flexible voltage ranges • Insulation classes B, F, and H • Frequency inverter operation • UL design • Thermal protection with temperature-dependent switches and thermal sensor • Customised impregnation

Exceptional technology from Halm – canned motors and wet rotor drives

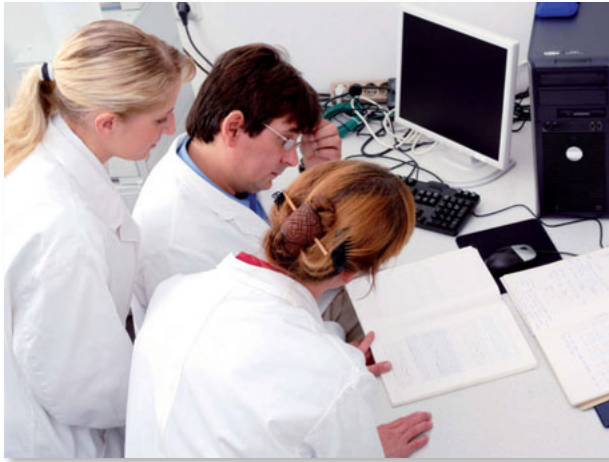
Halm is one of very few companies around the world to develop and produce canned motors with wet rotor technology.

Large numbers of these are already being used in circulation pumps for building technology. With their compact dimensions, extremely smooth and wear-free ceramic plain bearing technology, and high permissible media temperatures, these drives can also be used in many other applications. On the basis of this technology, there is no need for a slip ring seal or magnetic clutch. This increases efficiency and reduces the product costs.

Halm canned motors are available as asynchronous squirrel-cage motors or EC motors.

Type	Aluminium motor housing
Area of use	Circulation in heating and cooling circuits, aeration of ponds and other bodies of water, and anywhere for driving liquid media.
Power range	0.02 to 0.4 kW
Overall size	56 and 71
Options	<ul style="list-style-type: none"> • Insulation classes F and H • Frequency inverter • UL design • Thermal switch • Customised impregnation • Power electronics

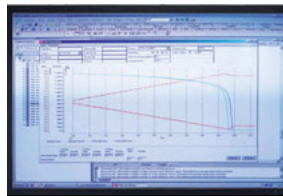




Halm services

Halm develops electrical drives with the latest testing and measurement equipment to series production in accordance with your specifications.

A testing laboratory with a motor test bench to 7.5 kW, a measuring room with a 3D test board, a testing room with general measuring equipment, and a pump testing room with several test benches are available for development and product certification work.



Halm – intelligent production management

Halm as a quality partner also means that, with our intelligent production and quality management, we are able to produce your small, medium, and large production batches at competitive market prices. Modern production facilities with a focus on automatic winding and insertion technology, and mechanical machining centres distinguish us as a quality manufacturer – with three production sites in Europe.

Semi-automatic insertion technology and manual insertion processes enable us to produce small and medium-sized batches economically.







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