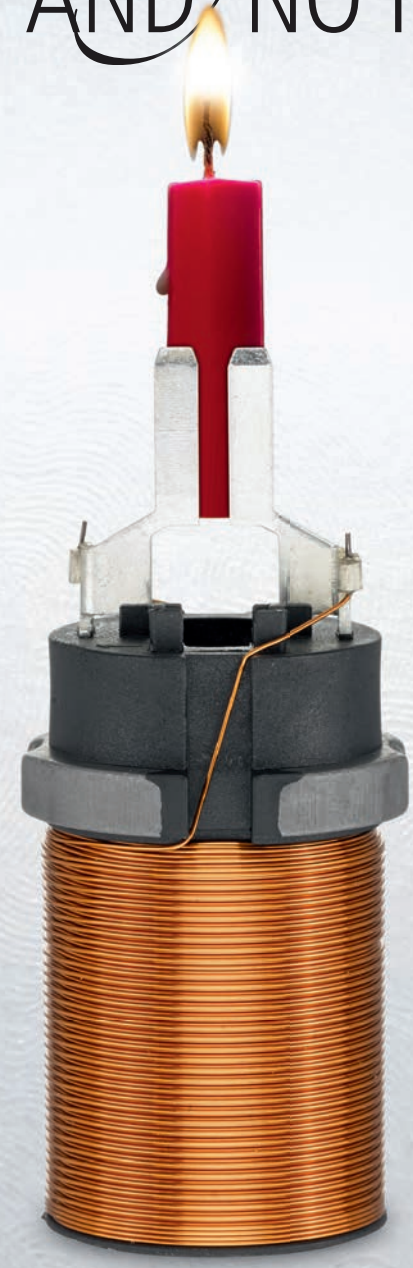
Illuminating
AND NO RISK AT ALL



ELECTROMECHANICAL SYSTEMS

FORSCHNER
We know.

BRILLIANT IDEAS

When it comes to electromechanical subassemblies with ever broader functionalities, do you sometimes yearn for smart solutions that represent real highlights? The Forschner Electromechanical Systems division gathers together comprehensive know-how for you – and creates sustainable value-added by means of intelligent engineering.

PRODUCT OVERVIEW

Our range of electromechanical systems ranges from molded coils to sophisticated solutions with cabling and contacts. They are available in numerous different versions – whether for automobiles or electric appliances.

RANGE OF SERVICES

- **Consulting and engineering**
- **Installation-space-optimized coil design**
- **High vertical range of manufacture in-house – combination of magnetic coil technology, welding technology, cable and plastics technology**
- **Subassemblies with high heat resistance**

Well distributed

Electromechanical systems are already more than a 50-year tradition at Forschner. With conceptualization and prototyping at our headquarters in Spaichingen and cost-efficient production in the Czech Republic, we make no compromises in this division where high-end and low-cost are concerned.

Spaichingen site, Germany

At the Forschner headquarters you not only receive intensive and expert consulting: central tasks are also processed here, and prototyping is carried out. In addition to state-of-the-art testing installations at our Spaichingen site we also have machines for low to medium production.

Uherské Hradiste site, Czech Republic

At our Czech plant, electromechanical systems are efficiently manufactured in low, medium and high volume production, on flexible automation lines. We can cover the entire value chain here, from welding and molding to lead frame production, crimping and bending. Our own testing department ensures constantly high quality standards. Forschner has been active at Uherské Hradiste ever since 1994.

Jörg Krieger (Dipl.-Ing., FH), Dr. Gert Forschner and Dietmar Geiger manage the family-owned company.

The Forschner company

With around 2,000 employees and numerous international locations, Forschner offers far more than electromechanical systems. Our portfolio is enhanced further by our Cabling Systems and Precision Turned Parts divisions. With our own developments FOR-hybrid, FOR-blue, and our development support FOR-tech, we also prove our creativity and innovative strength.

At the heart of our electromechanical systems there is almost always a coil.

FULL OF SURPRISES

Complete offer

Our customers name their requirements, and we take care of the rest. In the electromechanical systems sector, the Forschner service spectrum begins with a requirement analysis together with the customer, followed by customized development – all of it in a single process from prototyping and qualification to series production. Processes are lean and transparent, lean management being the key term here. On the basis of complete coil bodies we design and produce cost-efficient adaptations with the most diverse cables and contacts. This shortens development times and development costs – and thanks to comprehensive synergies, it does so across the entire value chain.

Synergies in production

Especially complex applications require intelligent and detailed coordination of all components. In this way, Forschner saves on unnecessary interfaces. Its other divisions, Cabling Systems and Precision Turned Parts, enable complete concepts that set new standards in the market. The interplay of the company's sites also creates multiple synergy effects. Like no other supplier, we combine comprehensive expertise from the magnetic coil, welding, cable and plastic technology sectors. This is how our customers get from initial concept to series production so quickly!

Impetus for safety

Installation-space-optimized winding, perfectly designed coils, and all of it specifically for plastics: Electromechanical systems from Forschner are based on advanced technology and solid expertise. They fulfill the highest individual requirements – regarding thermal stability, for instance – and also make key contributions where safety-critical areas such as ABS systems, dynamos or Visco clutches are concerned.

Extensive certification

All Forschner sites for cabling systems are certified to the following norms. It goes without saying that we also carry out the relevant follow-up audits.

- DIN ISO 9001
- ISO TS 16949
- VDA 6.1
- UL certificate

Our Cabling Systems division is also certified to the environmental audit ISO 14001.

CONSULTING
PROTOTYPING
COIL DEVELOPMENT AND DESIGN
INJECTION MOLDING
WELDING
CABLING / CRIMPING
SUBASSEMBLY PRODUCTION

Exemplary successes

Electromechanical systems set the pace in numerous fields of application: in the automotive and electrical appliances sectors as well as in hydraulic applications. All the sectors share an increasing level of customization, and modular architectures are increasing product diversity and reducing production volumes. Our range extends from fast-switching valves, coils and helical cables to special cables with electromechanical components for, e.g., damper systems.

The product examples shown below make it clear just what complexity we can achieve – all of it manufactured entirely in-house and perfectly tailored to the individual application.

BEARING AND COIL FOR VISCO WATER PUMP

- **Functionally safe subassembly made up of electromechanical components, cabling and precision technology**
- **Insert-molded Hall IC sensor, pressed-in ball bearing**
- **Complex inductivity test**
- **Additional safety hose on cable components**
- **In-house winding of integrated coil**

JUNIOR TIMER FOR HYDRAULICS

- **Processing of Deutsch contacts made from flatwire**
- **Insert-molded pole disc**
- **O-ring assembly**
- **Also in-house winding of the integrated coil**

BETTER CONCEPTS

Michael Grotz is head of the Electromechanical Systems Division at Forschner.

HIGHLIGHTS AT A GLANCE

We know ...

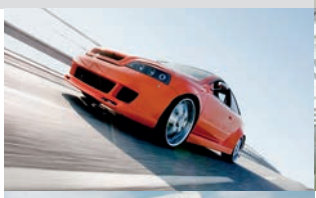
... how to use limited installation space for ever more complex functions

YOUR BENEFITS

- Customized consulting and engineering
- Synergy effects –coil, precision turned part and cable as a perfect unit
- Intelligent processes – e.g weight savings via transfer press
- High vertical range of manufacture – including own winding technology and crimping machines
- Consistently lean management
- Flexibility and cost efficiency due to two sites

OUR REFERENCES

- Behr
- Bosch
- Bosch Rexroth
- Eberspächer
- Thomas Magnete
- Webasto
- Woco
- ZF Friedrichshafen
- ZF Sachs



FORSCHNER
We know.

BETTER CONTACTS

COMPREHENSIVE TECHNOLOGIES FOR A HIGH VERTICAL RANGE OF MANUFACTURE

Our machine park for electromechanical systems is well equipped: for low-volume production as well as mass production. In every situation we are perfectly positioned to offers you single-source solutions – from simple coil to electromechanical high-tech solutions with integrated sensors. Discover the highlights of our production lines and technologies!

WINDING TECHNOLOGY

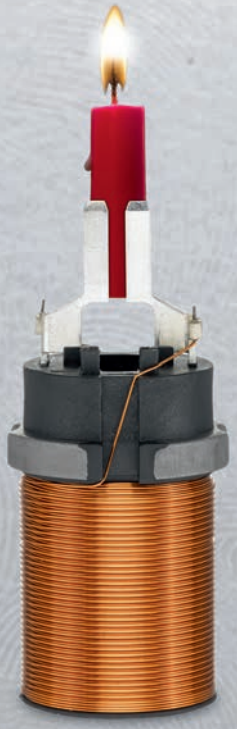
- Winding machines with 1 to 6 spindles
- Baking-winding machines
- Camera system for testing winding pack and harness layout
- Soldering plants
- Insulation displacement technology

PLASTIC INJECTION MOLDING AND WELDING TECHNOLOGY

- Injection molding machines 50-150 t
- Processing of all thermoplastic materials
- Resistance welding machines („hot staking“)

FORSCHNER

We know.



Eugen Forschner GmbH
Max-Planck-Str. 14 • 78549 Spaichingen, Germany
Phone +49 7424 943-0 • Fax 943-100
info@forschner.com

www.forschner.com