



PRODUCTS & SERVICES

We are a global company specialized in the engineering, design and manufacturing very accurate magnetizing and magnetic measurement equipment. We also offer complete magnetizing stations with integrated handling and measuring systems.

OUR PRODUCTS

1

MEASURING EQUIPMENT

For various types of magnetic materials, whether they are hard, soft, cemented carbides, or feebly



2

MAGNETIZING EQUIPMENT

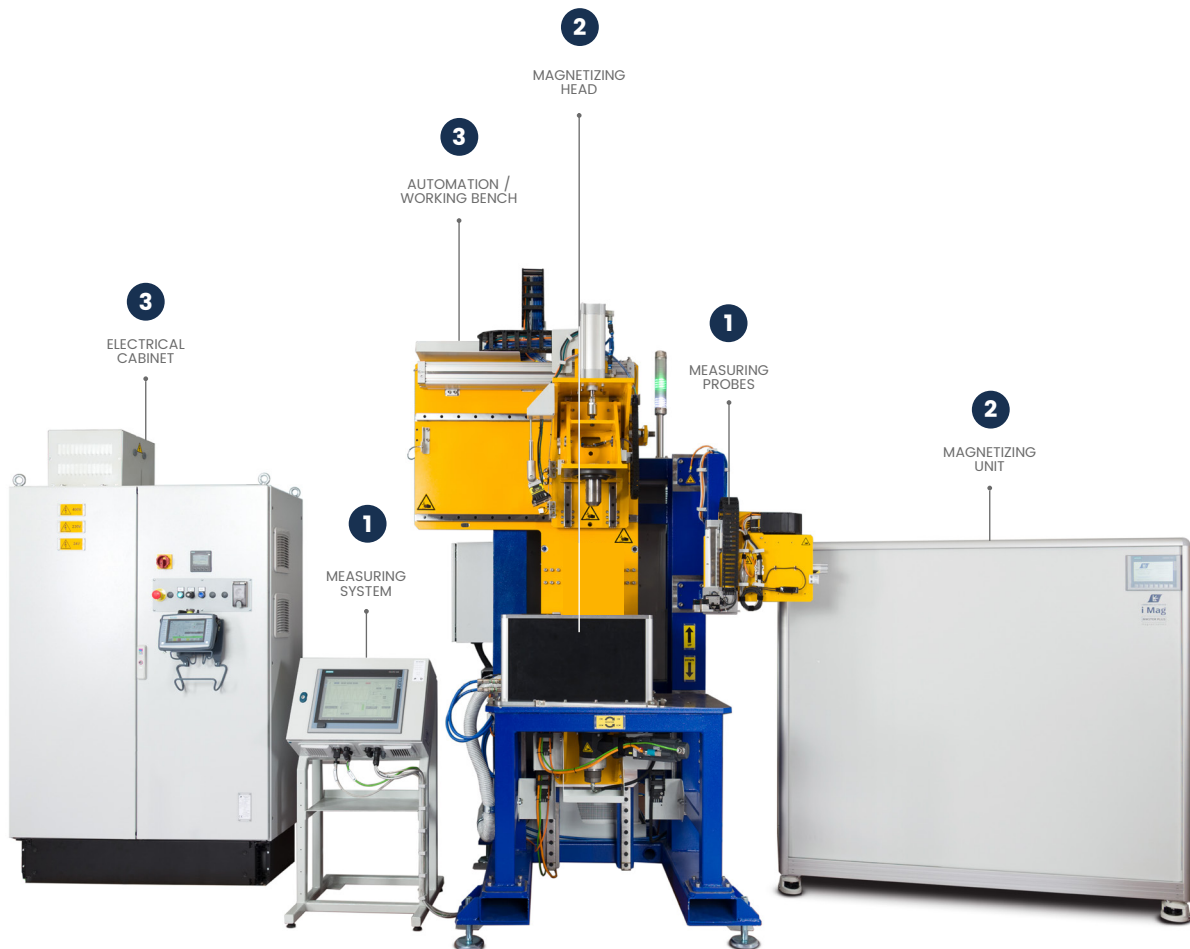
For various types of rotors' configuration and their associated magnetizing fixtures



3

INTEGRATED SYSTEMS

Integrated automation with powerful options

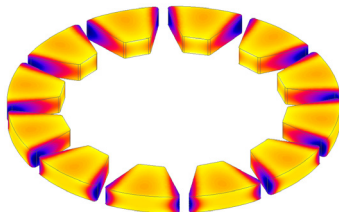


FEA & MAGNETIC CONSULTANCY

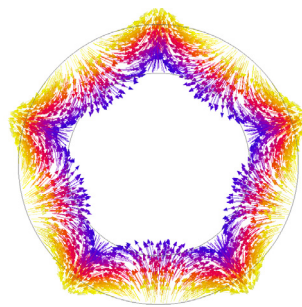
Our cutting-edge FEA (Finite Element Analysis) process meticulously accounts for all magnetic properties, as well as mechanical and thermal features, and the geometrical nuances of the assembly.

By presenting this data visually, we offer our customers an unprecedented opportunity to verify and evaluate the magnetization pattern before physical prototyping. This capability is invaluable for achieving highly optimized designs in terms of magnetic efficiency, mechanical robustness, and thermal behavior quickly and cost-effectively, without incurring production costs.

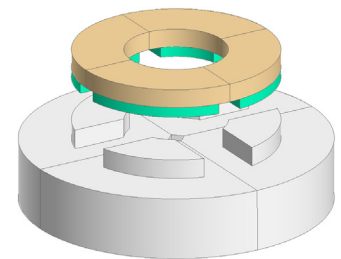
AUTOMOTIVE



OTHERS INDUSTRIES e-bike



HOUSE APPLIANCE



The image shows a cutting-edge magnetic field analysis of an axial flux motor rotor, which is central to the latest electric vehicle propulsion systems.

This powerful analytical tool allows us to swiftly design and validate complex magnetization systems, ensuring that each motor meets or exceeds the performance specifications our clients demand. By leveraging this technology, we guarantee that the desired torque, efficiency, and power output are achieved consistently.

This image shows an advanced analysis of the magnetic field of an electric bicycle pedal-assist motor. This particular motor uses isotropic magnets, where the direction of the magnetization is "imprinted" within the magnet material.

This approach is crucial because the magnetization in these motors is very sensitive to the position of the magnetizing conductors.

Expert evaluation and guidance on the mechanical aspects of handling magnetized materials.

The 3D model exemplifies the complexity involved in modern magnetic systems, particularly motors and generators. For complex systems incorporating multiple magnetic materials and diverse geometries, relying solely on experience or intuition is often not enough. Finite element analysis allows us to accurately predict and quantify these forces.

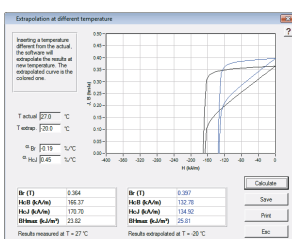
MAGNETIC MEASUREMENT

As a manufacturer of magnetic measurement systems, we can offer our expertise as a service to our customers.

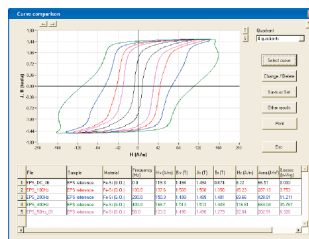
Our laboratory houses a wide range of measurement systems for both hard and soft magnetic materials, capable of meeting all customer requirements in terms of field intensity, temperature, and frequency.

Our cutting-edge TruePulse PFM (Pulsed Field Magnetometry) system enables us to measure complete hysteresis loops of even the highest coercivity materials.

HARD



SOFT



SCANNER

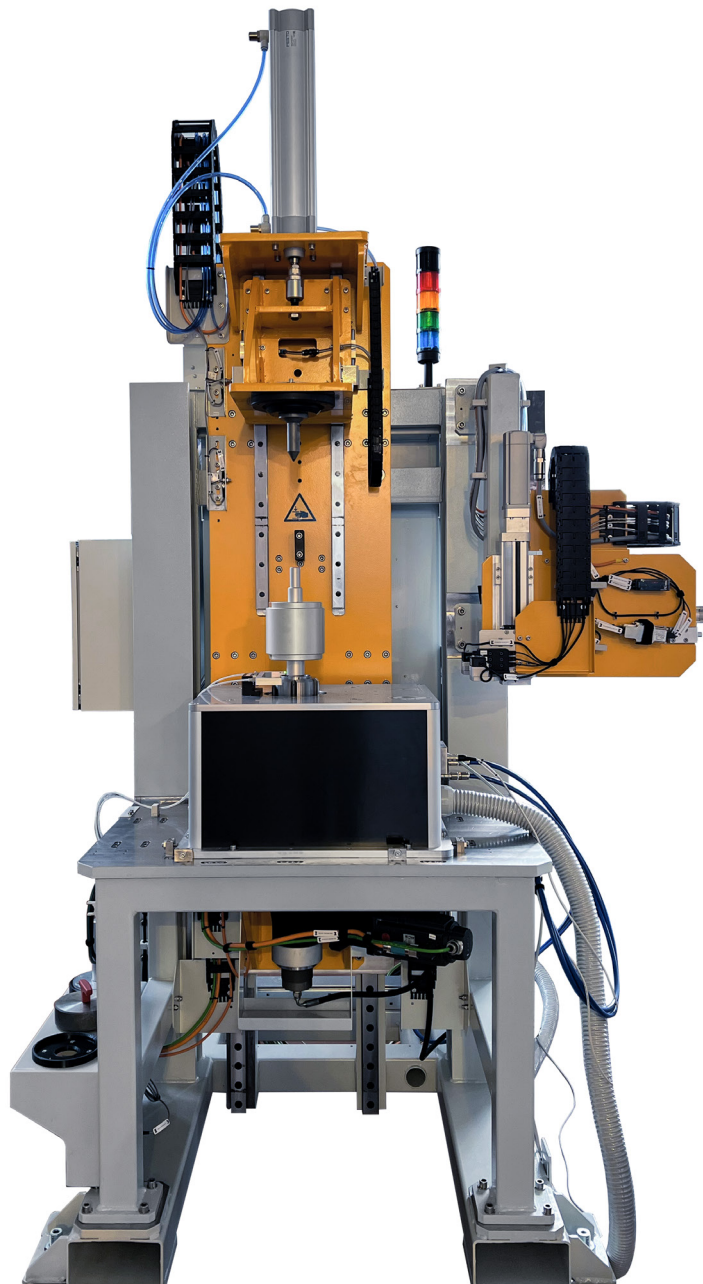


MAGNETIZATION SERVICE

Producing samples and pre-series of powertrain rotors can be a costly endeavor due to the required magnetization equipment.

We can assist our valued customers during this phase by providing a complete automatic magnetization station and scalable magnetizers directly at your facility. In addition to magnetization, we offer comprehensive part measurement with our integrated B-mapping system.

This greatly decreases the initial investment, as only the magnetization head, which is always customized around the part design, is needed to produce these samples.



Set up for prototyping

SPECIAL PROJECT



First of all, it will have to supply the DC power

Source: LinkedIn SAES Getters, November 2023

SAES GETTERS & LE

SAES Getters is an Italian company that produces components and systems made of advanced materials patented by the company and used in industrial and medical applications.

On its path towards fusion energy, SAES faced the challenges of controlling and regenerating one of the largest NEG pumps, and in collaboration with **Laboratorio Elettrofisico**, SAES developed a control panel that allows full control of the main parameters of the NEG pumps, such as pressure, voltage and current of each power supply, in an innovative, intuitive and flexible way.

SOFTWARE

MANAGEMENT & CONTROL

Using PID control, we manage the system's temperature, which must be kept constant during the experimental cycle according to its settings. We also maintain the pressure of special vacuum pumps below a set limit to ensure proper system operation.

The software also ensures proper reporting and management of alarms and component failures.

HUMAN MACHINE INTERFACE

We have created a fully dedicated HMI that allows the operator to monitor and manage various system parameters, providing graphical representations of all essential information for proper experiment management.

The software can also connect to the system's general supervisor, which acts as the master for all our operations. The supervisor receives all the parameter logs, staying always up-to-date on the experiment status.

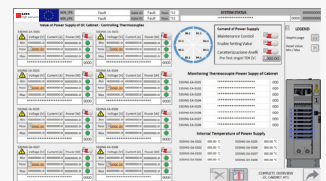
HOME



8 CABINET



SINGLE CABINET



MECHANICAL / ELECTRICAL

HARDWARE

We manage up to 8 cabinets, each with 8 power supplies, including all the electrical components for monitoring and protecting the system. Each power supply controls a single pump connected to a temperature probe.





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