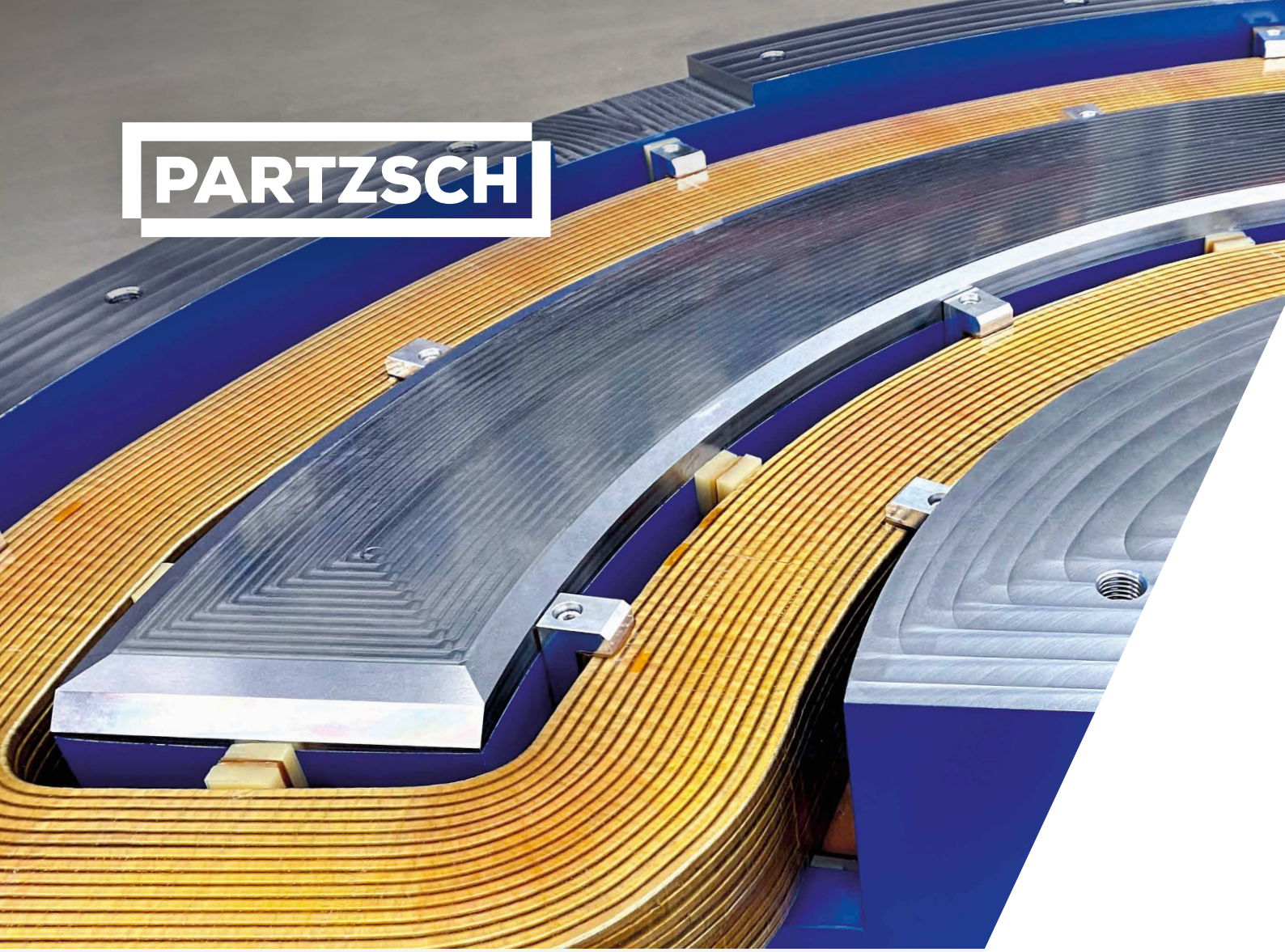
PARTZSCH



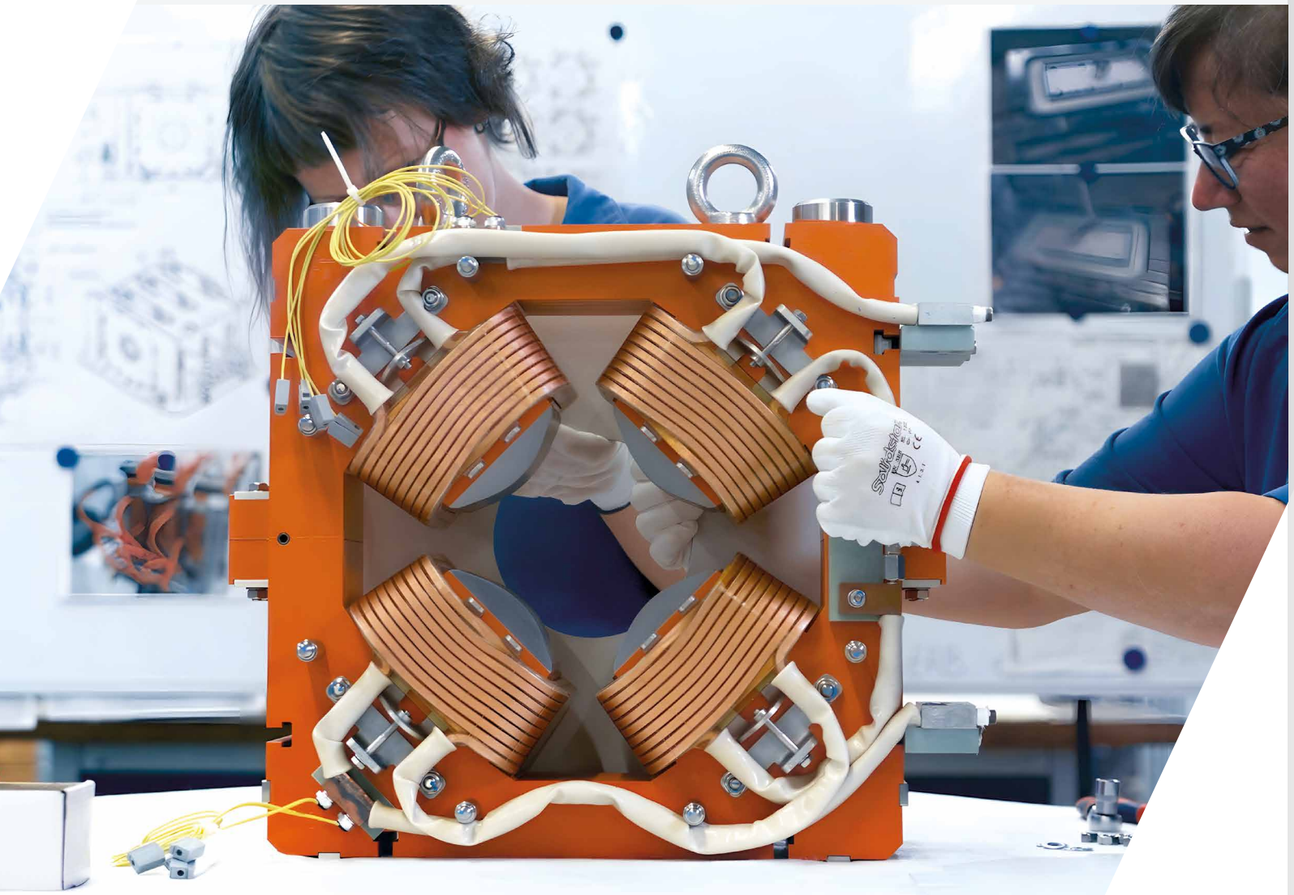
PARTZSCH ACCELERATOR MAGNETS

TECHNOLOGY FOR THE HIGHEST DEMANDS

The PARTZSCH Group

FROM REPAIR WORKSHOP TO MARKET LEADER

FOR NORMALLY CONDUCTIVE ACCELERATOR MAGNETS



On a production area of around 40,000 m² – equipped with the latest technologies and extensive machinery – the PARTZSCH Group in Döbeln, Saxony has been offering a comprehensive range of products and services for over 70 years.
With around 700 employees and industrial partners throughout Europe, PARTZSCH develops, manufactures, maintains and repairs rotating electrical machines from 100 kW to 250,000 kVA and weights up to 120 tons.

Since 2014, PARTZSCH has been producing normally conductive magnets in close cooperation with ACT Engineering. Innovative, precise and of the highest quality: As a leading German manufacturer of normally conductive magnets, PARTZSCH stands for reliable products "Made in Germany" and first-class service.

Normally conducting accelerator magnets are used in various industries: in research and fundamental physics, medical technology, aerospace and radiation research. In cooperation with ACT Engineering, PARTZSCH develops customized solutions for various fields of application.

OUR PORTFOLIO

Magnet types

- Solenoid magnets
- Dipole magnets
- Quadrupole magnets
- Six-pole solenoids
- Other types on request

Magnet components

Yokes

- Milling of yokes from solid material
- Production and processing of baked sheet metal packages
- Production and processing of standard insulated sheet metal packages (insulated or uninsulated)
- 5-axis milling with dimensional accuracy of 0.03 – 0.01 mm
- Machining dimensions 2,000 × 2,000 × 1,000 mm
- Production of 3D geometries and shaped surfaces
- 3D measurement via scan or coordinate measuring technology
- Testing of weld seams according to standards
- Processing of different material combinations (e.g. electrical steel, stainless steel, pure iron)

Coils

- Production of water-cooled or helium-cooled coils (waveguides)
- Production of coils with flat or round wire (solid conductor)
- Max. coil size on request
- Max. conductor size on request
- Leakage tests of water-cooled or helium-cooled coils
- Electrical tests (high voltage, resistance measurements, temperature cycle tests)
- Processing of radiation-hard materials
- Encapsulation with Araldite® F or vacuum impregnation

Services and processes

FROM THE IDEA *TO THE FINISHED PRODUCT*

Since 2014, the PARTZSCH Group has maintained a successful and trusting partnership with our experienced cooperation partner, ACT Engineering. The well-established and proven work processes of both companies ensure smooth, professional collaboration –to the benefit of our customers.

ACT Engineering develops the magnetic and mechanical design based on the functional description. In addition, our specialist know-how flows into the manufacturing and production planning. The complete implementation, including yoke machining and coil production, takes place in-house. The qualified employees of the PARTZSCH Group and the modern production facilities offer ideal conditions for this – completely "Made in Germany". The manufacturing process is completed by carrying out magnetic measurements. We are also responsible for maintenance and the fulfillment of warranty claims. Our customers benefit from short delivery times, efficient processing and the consistently high quality of our services.

Engineering

Manufacturing & production planning

Yoke & coil production

Magnetic measurements

Maintenance

High quality & customer satisfaction

Engineered by ACT .engineering

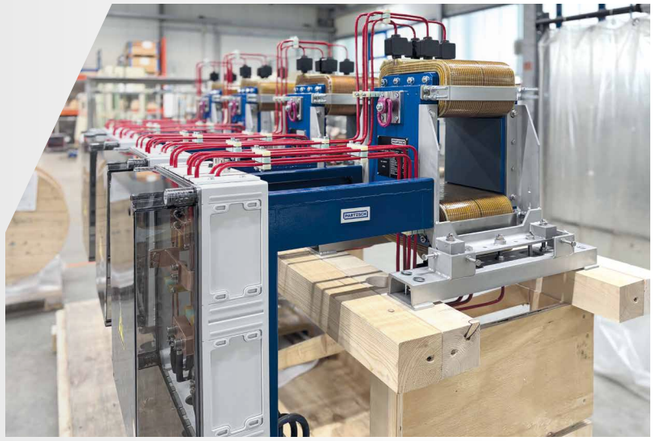
MADE IN GERMANY

Our services at a glance

- Electromagnetic design
- Mechanical design
- Customized QA
- Magnetic measurements
- Transportation planning and handling
- Installation and commissioning on site

The advantages at a glance

- Precision and top quality
- Always the right resources for your project
- Made in Germany



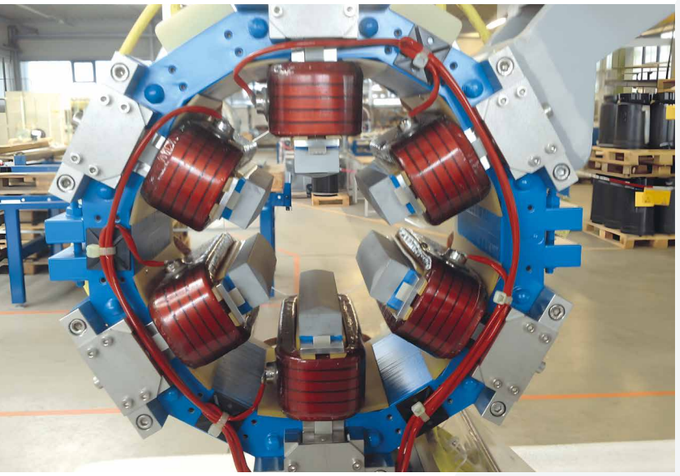
References

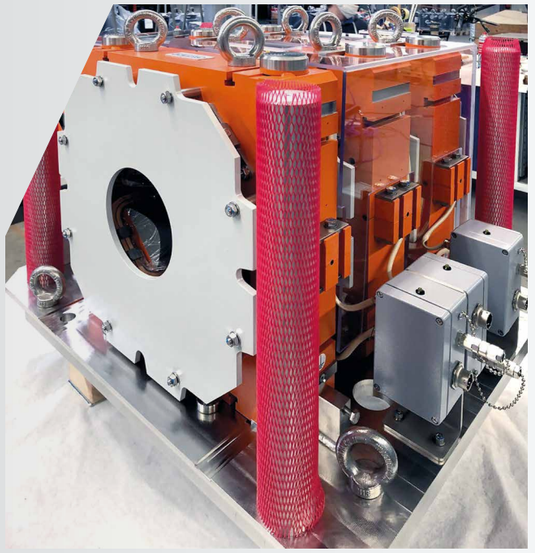
FROM INQUIRY *TO SATISFIED CUSTOMER*

Our references speak for themselves:
A small selection shows which projects have been successfully implemented by PARTZSCH and ACT Engineering.

CERN

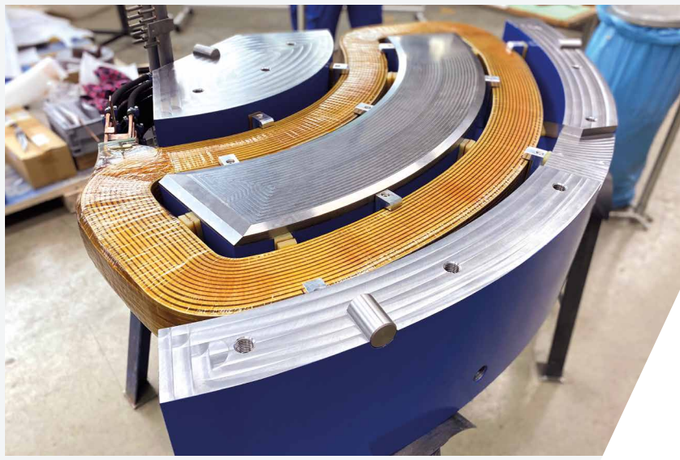
The European Organization for Nuclear Research, CERN in Geneva, conducts basic research in physics and is the world's largest research center for particle physics. For CERN, PARTZSCH produced normal-conducting magnets of various types.





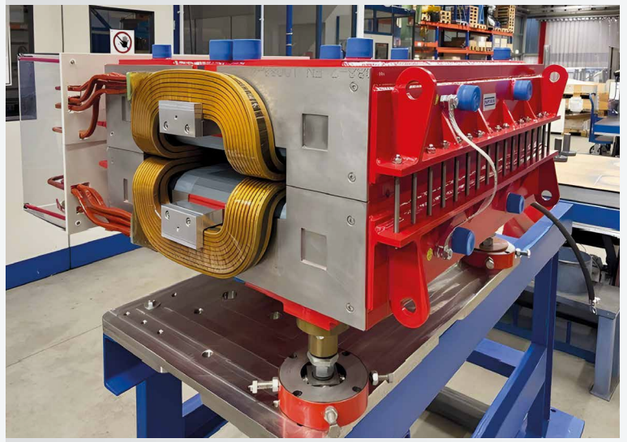
MedAustron

Normally conductive accelerator magnets are required in cancer therapy treatment. For our customer MedAustron, a center for cancer therapy treatment with clinical and non-clinical research facilities, we have manufactured and delivered a total of eleven different types of magnets in different quantities.



Physikalisch-Technische Bundesanstalt

The 90° deflection dipole magnet was built as a replica for the Physikalisch-Technische Bundesanstalt, specifically for the National Metrology Institute.



GSI Fair

This dipole magnet (kicker magnet) was manufactured as a replacement magnet.

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PARTZSCH

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