ENERGY

HYDRO POWER

SOLUTIONS FOR

- ELECTRICAL POWER TRANSFER
- ELECTRICAL PROTECTION
- SEALING

MERSEN

MERSEN

A world leader committed to Renewable Energies

A world leading supplier of electrical protection, sealing, power and signal transfer solutions, Mersen contributes to the development of renewable and greener energy sources. We work with electricity suppliers, for all types of hydro power plants.
We provide hydro power plant operators, generator manufacturers and repair specialists with reliable solutions tailored to various operating conditions (humidity, oil vapor, cold temperatures, dust), designed and tested for reliability and optimum performance.

Expertise, Knowledge and Experience

Our company has been working with electrical rotating machinery for more than 100 years. We do know very well motors and generators. This is one of the reasons why our customers come to us. They know that we provide solutions that are controlled through the complete product life cycle (development, manufacture of materials, product design, quality control, distribution, technical expertise and training).
We offer them reliable solutions and the benefit of our extensive knowledge, years of experience and strong expertise.

Solution-orientated approach and R&D policy

We work in partnership with our suppliers to create the solution needed to improve the performance of our customers' applications. This solution-orientated approach allows us to develop innovative solutions. Our Research & Development teams are international and combined with our comprehensive test facilities, work on a variety of themes for our sectors of activity, helping us to meet today the market requirements of tomorrow.

Services

On the 5 continents, our engineers and technicians provide specific services to optimize the performance of hydro power stations:
- On site services (cutting, grinding, bevelling and undercutting of commutators, etc.)
- Diagnostics (commutator and slip ring profile analysis, surface roughness and carbon brush pressure measurements, axial and circumferential stagger analysis, carbon brush grade studies considering the machine and its environment)
- Technical support
- Training
- Specifically designed measuring tools

Quality and Environment

Our 56 manufacturing facilities are registered to ISO quality and environmental standards. This ensures that we can provide our customers with manufacturing sites implementing quality manufacturing processes and respecting environmental standards.

Sustainable development

At Mersen, we believe it is possible to conciliate environmental issues and social progress with the company's interests. That is why we make sure that an environmental approach is adopted during the life cycle of every solution.
As an example, we have developed lead free carbon brushes and can offer recycling programs to our customers.

HIGH QUALITY ENGINEERED SOLUTIONS

Our solutions are based on over 100 years of experience. We have learnt in the field, in different conditions, what works and how to improve performance. We provide our customers with a large range of solutions each adapted to a specific need. Our strength is our experience, our knowledge and our ability to design solutions paying attention to detail in every step of the manufacturing process.

Our solutions for hydro power plants are made of carefully chosen quality materials, manufactured on cutting-edge equipment (CNC machines, broaching machines, computer aided measuring instruments, high precision microscopes...). They benefit from high precision assembling and respect industrial international standards (IEC, NEMA, ASTM, SAE, DIN…).

We test our solutions for optimum performance in variable loads and environmental conditions, helping our customers to reduce maintenance costs. We have the knowledge to reengineer existing solutions and create maintenance tools to improve the performance of hydro power plants.

Mersen is a global Expert in materials and solutions for extreme environments as well as in the safety and reliability of electrical equipment.

Our markets:

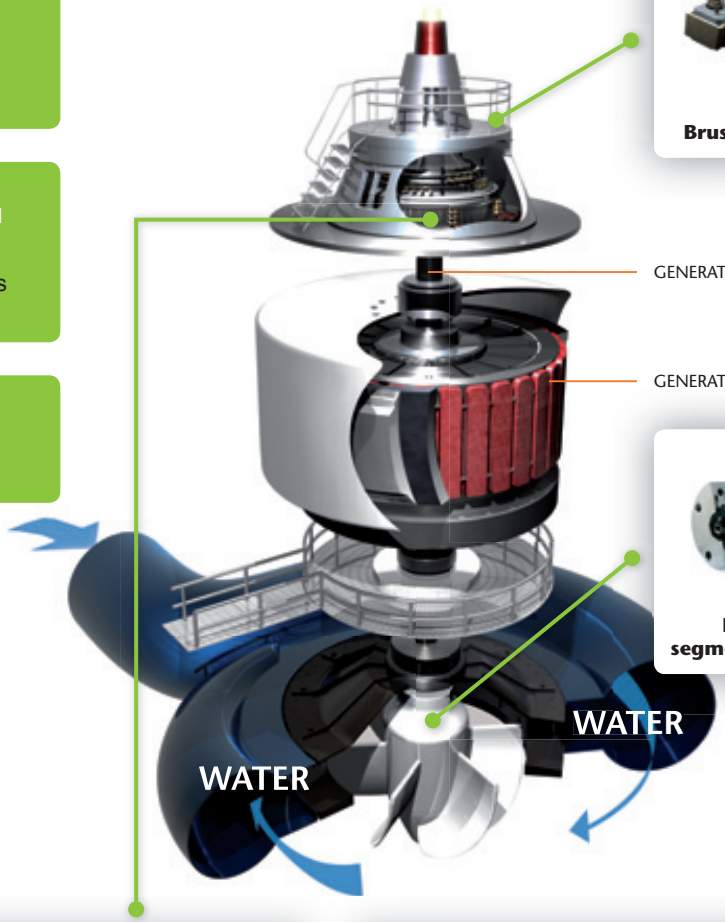
- **Energy:** • Wind • Hydro • Photovoltaic • Nuclear Power • Conventional Thermal Power • Oil & Gas
- **Transportation:** • Railways • Aerospace & Aeronautics • Ports & Marine • Electrical Vehicles
- **Electronics:** • Polysilicon • Power Electronics • Semiconductors • Compound Semiconductors • Optical Fiber Production
- **Chemicals & Pharmaceuticals:** • Organic Chemicals • Inorganic Chemicals • Fine Chemicals & Pharmaceuticals
- **Process industries:** • Metallurgy • Mining • Oil & Gas • Cement • Pulp & Paper • Rubber & Plastic • Water & Wastewater Treatment • Assembly Manufacturing • Mould Industry • Glass Industry • Sintering • Furnace Industry
- **Other Markets:** • Commercial • Residential • Data Communication • Elevators • Forklifts

SOLUTIONS & SERVICES FOR HYDRO POWER

SERVICES
- Motor & maintenance services
- Training
- Tools & measuring devices

POWER INTERCONNECTION
(Utility)
- High power switches
- DC switches

STATIC SEALING
(Fluid handling)
- Papyex® gaskets

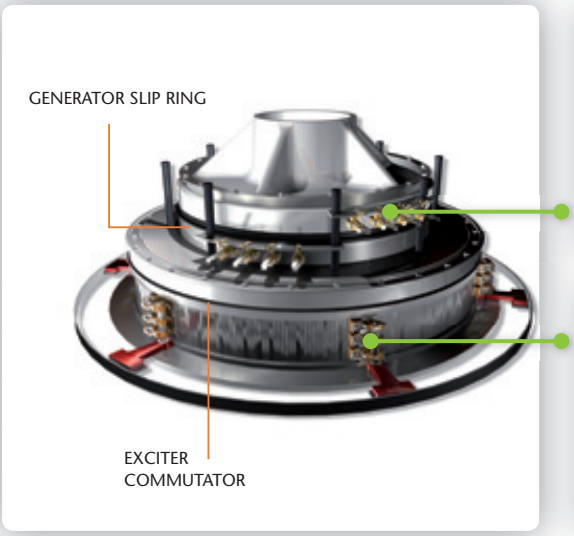


Brush-holders

Power and grounding carbon brushes

Radial segmented seals

Axial/Radial segmented seals



Brush-holder assemblies & brush-holders with dust exhaust systems

Brush-holders

Power carbon brushes

Brush-holder brackets

Brush-holders

Power and grounding carbon brushes

CARBON BRUSHES

- Selected materials: graphite, copper…
- High electrical conductivity
- Good mechanical stability
- Low friction coefficient
- Low resistivity material
- High quality tamping
- Optimized cable dimensions
- Specific design
- Brush wear warning systems
- Wide speed range (15 to 55 m/s)

BRUSH-HOLDERS

- Wide range: metric & imperial systems
- Moulded
- Machined
- Fitted with independent pressure system: wound or coil springs
- Single or multiple boxes
- Special isolators
- Side attachment on arms
- Brush-holder attachment arms
- Brush wear warning systems
- Brush-rocker assemblies
- Selected materials: non-ferrous alloys, anti-corrosion…
- Customized designs
- Die casting
- Stamping
- Reinforced plastic injection
- Metal guide rails
- Brush-holder plug sets available
- Brush-holders with dust exhaust systems available

SLIP RING ASSEMBLIES

- Selected materials: non-ferrous alloys, stainless steel, dielectric materials…
- Customized designs
- Reinforced plastic injection
- Finished product compliance
- Plain or helically-grooved rings
- Moulded or machined rings

CARBON SEALS

- Adjustable orientation of segmented seals
- Designed with overlapping to improve sealing performance
- Customized design and material to make the seal integration easier
- Self lubrication properties
- Linear speed up to 50 m/s
- Extended life solutions
- Suitable in abrasive conditions
- Proven solutions on this application for more than 40 years

FOCUS ON

BUNG Brush-holders

- Complete range
- Modular construction
- Constant force springs
- Robust and easily adaptable

SERVICES

MOTOR & MAINTENANCE SERVICES

- Expertise
- Diagnostics
- On site intervention
- Refurbishing & re-engineering of solutions and components

TRAINING

- Led by technical experts
- According to a defined curriculum or adapted to specific needs
- Transfer of skills
- At either our location or our clients'

TOOLS & MEASURING DEVICES

- CL-Profiler
- ComPro2000™
- Grinding stones
- Mica undercutters
- Dynamometers
- Stroboscopes
- Alarm boxes
- Roughness meters
- Grinders & accessories
- Saws
- Scrapers
- Slotting files

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MERSEN

Expertise, our source of energy

A GLOBAL PLAYER

Global expert in materials and solutions for extreme environments as well as in the safety and reliability of electrical equipment, Mersen designs innovative solutions to address its clients' specific needs to enable them to optimize their manufacturing process in sectors such as energy, transportation, electronics, chemical, pharmaceutical and process industries.

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