

# PROCESS INDUSTRIES PULP & PAPER

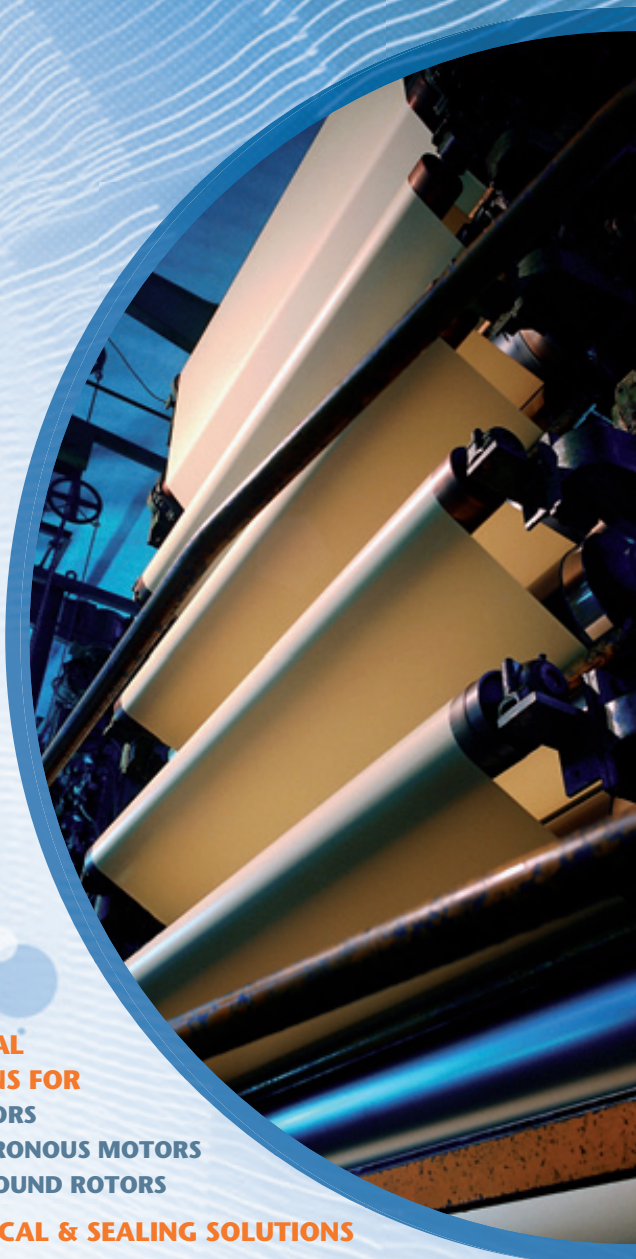
## ELECTRICAL SOLUTIONS FOR

- DC MOTORS
- ASYNCHRONOUS MOTORS  
WITH WOUND ROTORS

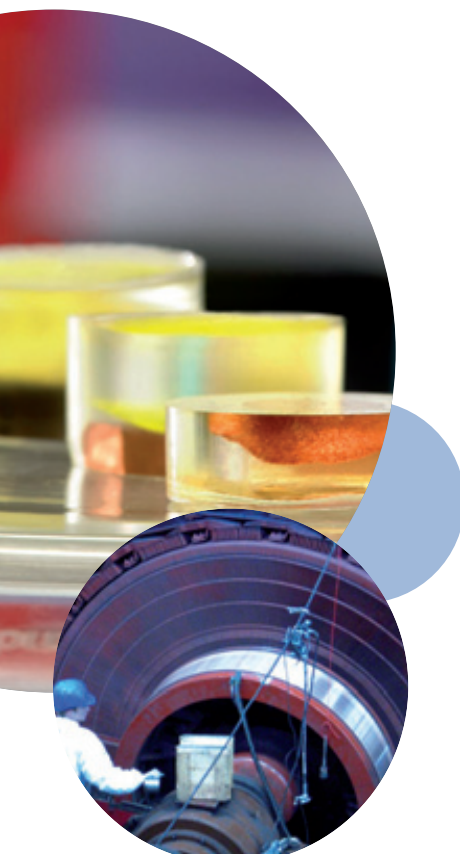
MECHANICAL & SEALING SOLUTIONS



**MERSEN**



# MERSEN



## A world leader committed to the Process Industries

● A world leading supplier of mechanical, sealing, power and signal transfer solutions, Mersen contributes to the well functioning of pulp and paper plant equipment (kneading machines, winders, rollers, driers, etc.). We provide paper mill operators, maintenance and repair specialists with high quality engineered solutions tailored to various operating conditions (humidity, dryness, heat, intensive line speeds, etc.), 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 know motors and generators very well and 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 drives our Research & Development facility and enables us to provide innovative solutions. Our Research & Development teams are international and combined with our comprehensive test facilities work on a wide range of subjects, allowing 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 pulp and paper plants:
  - 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

● Here at Mersen, we believe it is possible to bring together our company's interests while respecting environmental issues and social progress. For this reason, 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 gained in the field. Working in different countries, applications and environments, we know what works and how to improve performance. We can 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 pulp and paper plants are carefully selected from high quality materials and are 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 a variety of load and environmental conditions, helping our customers to reduce their maintenance costs. We have the knowledge to reengineer existing solutions and create new maintenance tools to improve the performance of pulp and paper equipment.

Aside from offering high performance electrical, mechanical and sealing solutions, Mersen also provides a large range of adapted equipment for all processes notably for black liquor heating and paper paste bleaching. 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 PULP & PAPER PLANTS

## SERVICES

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

### 1. PULP PROCESSING



**Carbon brushes**



**Brush-holders**



**Slip ring assemblies**

### 2. PAPER PASTE TRANSFER



**Carbon brushes**  
for pump sections



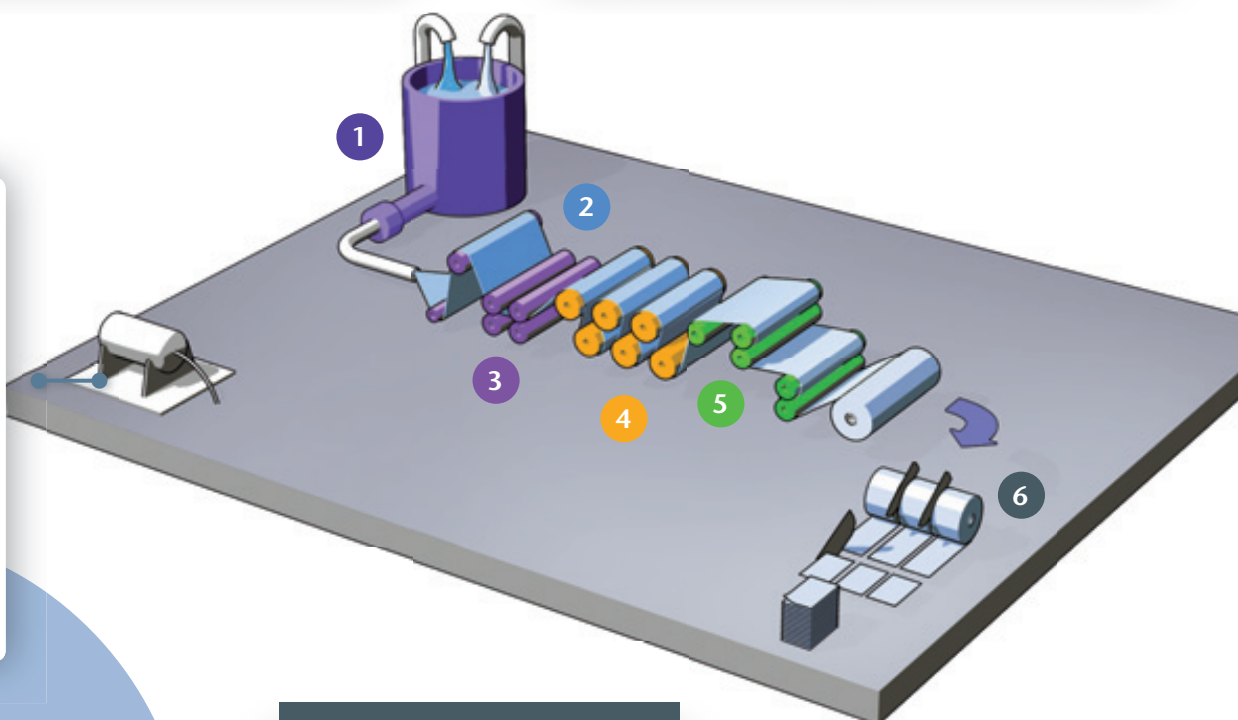
**Brush-holders**  
for pump sections



**Carbon seals & carbon bushings**  
for steam boxes



**Carbon brushes & Brush-holders**  
for power blocks



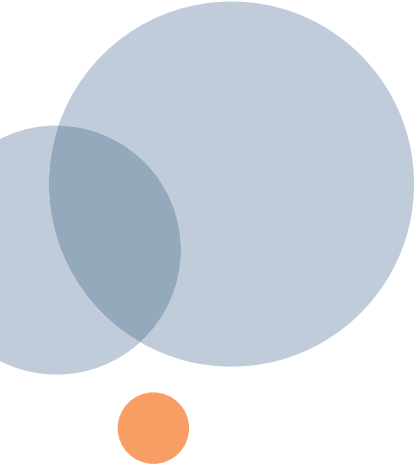
### 6. PAPER CUTTING & FINISHING



**Carbon brushes**



**Brush-holders**



## CARBON BRUSHES

- Lead free carbon brushes available
- Selected materials: graphite, copper, silver...
- High electrical conductivity
- High quality tamping
- Optimized cable dimensions
- Specific design
- Brush wear warning systems
- Running in different loads
- Good commutation
- Long life

## BRUSH-HOLDERS

- Wide range: metric & imperial systems
- Moulded
- Pressure system: wound or coil springs
- Single or multiple boxes
- Side attachment on arms
- Brush-holder attachment arms
- Brush wear warning systems
- Complete brush-holders and rocker rings
- Selected materials: non-ferrous alloys, anti-corrosion...
- Customized designs
- Die casting
- Stamping
- Reinforced plastic injection
- Metal guide rails

## SLIP RING ASSEMBLIES

- Selected materials: non-ferrous alloys, stainless steel, dielectric materials...
- Customized designs
- Reinforced plastic injection
- Finished product compliance: balance, dielectric testing

## SiC/CARBON SEALS & BUSHINGS

- Full interchangeability with your current solutions
- Metal impregnated products for extended life
- Self lubrication properties in dry friction conditions
- Steam box applications
- Papyex® seals: gaskets

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

### 3. PAPER PASTE PRESSING



Carbon brushes



Brush-holders

### 4. PAPER DRYING



Carbon brushes



Brush-holders

### 5. PAPER FINISHING



Carbon brushes



Brush-holders



**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.

[www.mersen.com](http://www.mersen.com)