

# MENZEL

## ELEKTROMOTOREN



### Challenging environments

Mining & Minerals  
Cement  
Oil & Gas  
Marine & Offshore

### High-performance industries

Steel & Rolling Mills  
Chemicals  
Pulp & Paper  
Test Fields

### Reliable infrastructure

Power Generation  
Water & Wastewater  
Conveyors & Extruders  
Cranes & Hoists

# WELCOME

Since 1927, MENZEL has been synonymous with reliable electric motor solutions made in Hennigsdorf near Berlin. As a family-owned company in its **third generation**, we stand for strong values, long-term partnerships, and a **hands-on** approach to engineering.

We take pride in supporting our customers with tailored solutions, technical expertise, and short response times whether for **urgent motor replacements** or **complex custom designs**.

We know: behind every motor is a critical process. That's why we deliver more than power – **we deliver trust**.

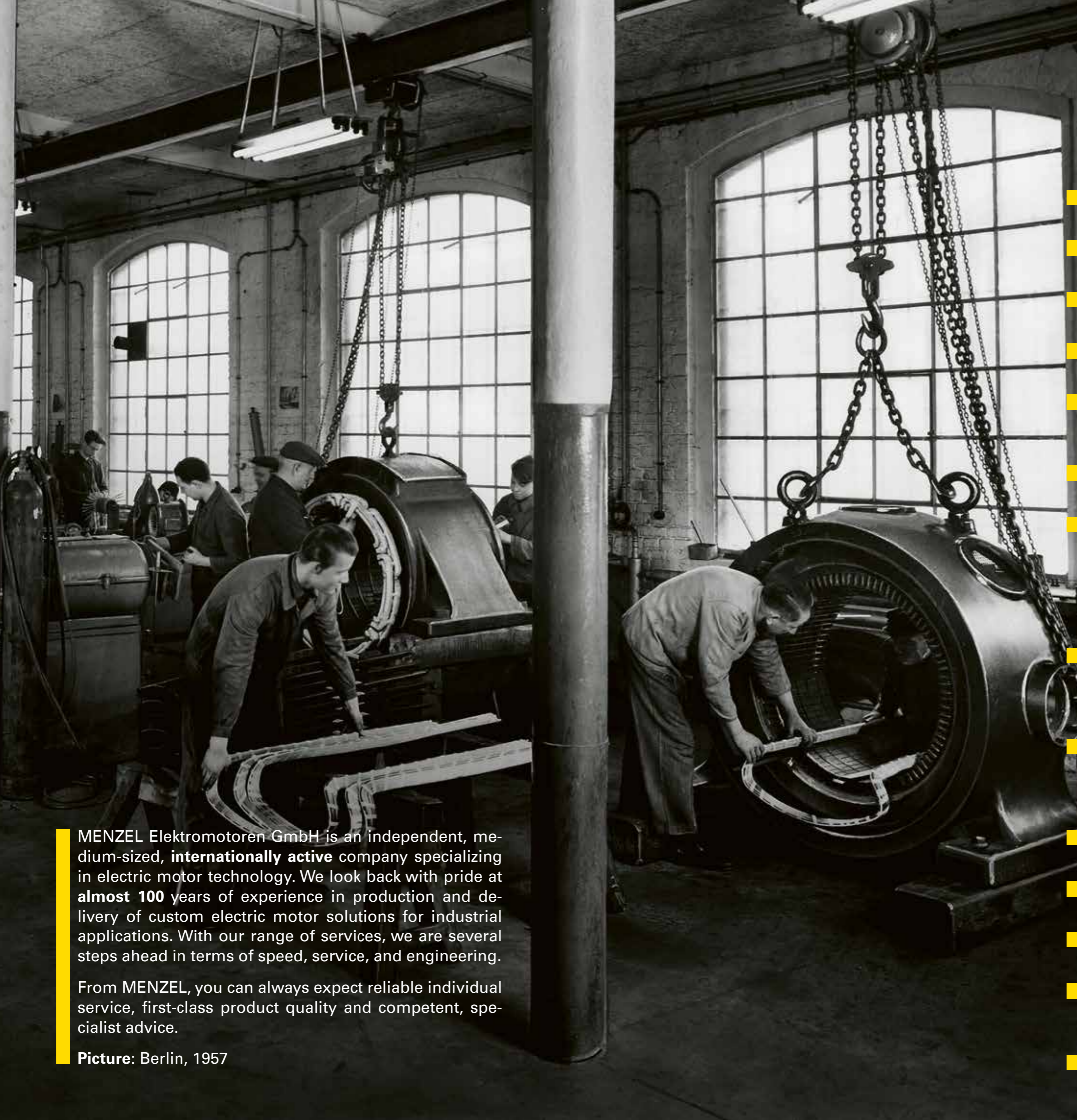


- 05** Rooted in tradition, engineered for future
- 07** Your partner in motion
- 09** Electric motors up to 25 MW
- 13** Production facility
- 15** Custom design, special solutions & identical replicas
- 17** Extensive inventory of large motors
- 19** Advanced in-house load test field
- 21** Our service offer
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**INDUSTRIAL ELECTRIC MOTOR  
TECHNOLOGY SINCE 1927**

# ROOTED IN TRADITION, ENGINEERED FOR FUTURE



MENZEL Elektromotoren GmbH is an independent, medium-sized, **internationally active** company specializing in electric motor technology. We look back with pride at **almost 100** years of experience in production and delivery of custom electric motor solutions for industrial applications. With our range of services, we are several steps ahead in terms of speed, service, and engineering.

From MENZEL, you can always expect reliable individual service, first-class product quality and competent, specialist advice.

Picture: Berlin, 1957

1927

At the age of 23, **Kurt Menzel** set up the company in Berlin.

1948

Ms Gisela Menzel entered the **family business**.

1959

Construction and **expansion** of warehouses and factory.

1975

**Kurt Menzel Jr.** joins the company and expands its product portfolio.

1993

Acquisition of different **external stock depots**, in response to the rapid business expansion.

2005

**Mathis Menzel** enters the company, placed in charge of international sales.

2006

Capacities are expanded on a major scale in order to meet the rising demand: A **storage facility** for new high-voltage motors, a new **assembly line** and two new **crane systems** are set. A new engineering center in Hannover is set up.

2011

A **state-of-the-art paint-shop** is completed to upgrade and expand the Berlin location. Acquisition of **Pawils Elektromaschinenbau GmbH** in Peine, Lower Saxony.

2012

A **second load test field** with a 2,300 kVA capacity has been put into operations and enables tests up to 1,800 kW under load and up to 10,000 kW at no load speed.

2017

Extension of stock keeping to **modular motors** up to 25 MW.

2018

Extension of the test field services (**dual frequency**).

2019

Digitization: MENZEL has converted to **paperless order management**.

2024

After only 2 years of construction, opening of the **new MENZEL motor plant** and headquarters at Hennigsdorf near Berlin.

2026

Extention to be completed.

# ABOUT US



## YOUR PARTNER IN MOTION

We are your partner for **custom motor designs and special solutions** in industrial electric motor technology, with a power range up to 25 MW. The German brand **MENZEL** represents reliable motor technology and **decades of expertise**. Our globally used motors meet the **highest international standards** for quality, safety, and performance. We provide everything from one source: personal advice, project planning, design, production, testing, assembly, and commissioning. The **optimum liability** of an electric motor is only achieved through the precise design of the entire drive system. With our own **engineering department**, we precisely match drive components to each other, analyzing grid, switch-on, and operating conditions to ensure optimal adaptation to your application.



Experts for industrial motors up to 13,800V



24h emergency service  
Short delivery times



Worldwide locations  
and excellent partners



Custom design and  
individual adaptations



DIN EN ISO 9001  
Certified

# OUR PRODUCTS



MENZEL delivers reliable, **taylor-made** motor solutions for demanding industrial applications. Our portfolio includes low-, medium-, and high-voltage AC motors with **squirrel cage or slip ring rotors**. The latter can also be constructed with **brush lifting devices** for optimal operation under varying load conditions. For environments with high moisture or temporary submersion, we offer **watertight motors as per IP67 requirements for temporary flooding**. We are also one of the few manufacturers that still have DC motors in their product range.

Our explosion-proof motors comply with international standards: **Ex ec and Ex tc** motors suit Zone 2 and Zone 22, while **pressurized Ex p** motors meet the stringent requirements of Zone 1. We also supply robust crane duty motors, resilient roller table motors for steel and rolling mills, and versatile **generators in asynchronous and synchronous designs**.

Beyond motors, our **rotating converter sets** and complete **drive systems** offer precision and efficiency for test facilities. Backed by decades of engineering experience, MENZEL delivers maximum reliability and performance even under the most demanding conditions.

**„We are committed to fulfilling your special requests at any time and for all models.“**  
Mathis Menzel



**Asynchronous squirrel cage motors**

75 kW up to 25,000 kW  
220 V up to 13,800 V



**Asynchronous slip ring motors**

75 kW up to 20,000 kW  
220 V up to 13,800 V



**DC motors**

20 kW up to 4,000 kW  
160 V up to 1,000 V

## ASYNCHRONOUS SQUIRREL CAGE MOTORS

**Power:** up to 25,000 kW

**Voltages:** 220 V up to 13.8 kV

**Mounting:**

- IM B3 for horizontal installation
- IM V1 for vertical installation
- IM B5/B14/V1 for flange mounting
- IM B35 for foot & flange mounting

**Standard degrees of protection:**

- IP 55 [fully enclosed]
- IP 23 [open drip-proof]

**Standard types of cooling systems:**

- IC 01 + IC 06 [open circuit air-cooled]
- IC 411 + IC 416 [ribbed-cooled]
- IC 611 + IC616 + IC 666 [air-air heat exchanger]
- IC 81 W + IC 86 W [air-water heat exchanger]
- IC 511 [tube cooling]



## ASYNCHRONOUS SLIP RING MOTORS

**Power:** up to 20,000 kW

**Voltages:** 220 V up to 13.8 kV

**Mounting:**

- IM B3 for horizontal installation
- IM V1 for vertical installation

**Standard degrees of protection:**

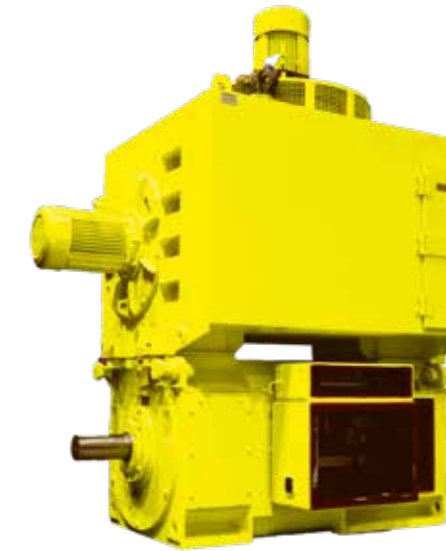
- IP 55 [fully enclosed]
- IP 23 [open drip-proof]

**Standard types of cooling systems:**

- IC 01 + IC 06 [open circuit air-cooled]
- IC 411 + IC 416 [ribbed-cooled]
- IC 611 + IC616 + IC 666 [air-air heat exchanger]
- IC 81 W + IC 86 W [air-water heat exchanger]
- IC 511 [tube cooling]



## DC MOTORS



**Power:** up to 4,000 kW

**Voltages:** up to 1,000 V

**Construction:** common mounting, cooling and protection types available

## 3-PHASE GENERATORS



**asynchronous generator with squirrel cage rotors**

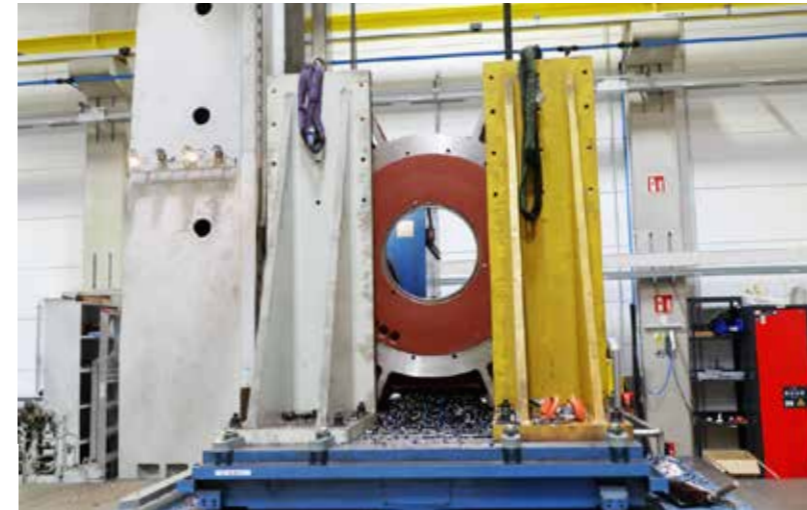
**Power:** up to 4,000 kW  
**Voltages:** up to 13,800 V  
**Construction:** common mounting, cooling and protection types available

**synchronous generator with salient and non-salient pole rotors**

**Power:** up to 20,000 kVA  
**Voltages:** up to 13,800 V  
**Construction:** common mounting, cooling and protection types available

# FROM MID TO

MENZEL combines all essential manufacturing steps at a single site to ensure quality and efficiency throughout the entire process. Our production capabilities include a dedicated **welding** shop, **milling** shop, and **lathe** shop equipped with various lathes including a carousel for diameters up to 2 meters. We operate a **stationary drill** for large components and an in-house **paint** shop for industrial-grade finishes. An 80-ton overhead crane system enables safe handling of heavy machines. In addition, our engineers offer technical consulting and custom motor design for optimum motor reliability.



# CUSTOM DESIGN, SPECIAL SOLUTIONS & IDENTICAL REPLICAS

Customized electric motors are our specialty. MENZEL offers **tailored motor solutions** that are specifically adapted to meet the needs of our customers. We provide **full-service capabilities** for companies across a wide range of industries, including modifications of existing designs as well as entirely new developments. This ensures optimal performance and **seamless integration** into existing systems.

For many years, MENZEL has been a trusted provider of customized motor solutions worldwide. Our extensive expertise and in-depth user experience make us specialists in addressing specific motor requirements from mechanical design to electrical parameters. Additionally, our team provides **personal consulting** to understand your unique needs and deliver the best possible solution for your application.

## MECHANICAL SPECIAL SOLUTIONS

### Mechanical interfaces for add-ons

- Mounting provisions for tachometers and encoders
- Non-reverse ratchets
- Brakes
- 2nd flange for rigid mounting as bow thrusters

### Adjustable terminal boxes

- Custom sizes and positions
- Compact terminal box solutions
- Special frame constructions
- Side or rear cable exits
- Optimized internal wiring layout

### Bearing solutions

- Various anti-friction bearings with grease or oil lubrication
- Sleeve bearings
- Special bearing set-ups for up- and/or down-thrust
- Spherical roller bearings for axial thrust

### Flexible shaft end adjustments

- Shortened shaft ends
- Custom shaft end profiles

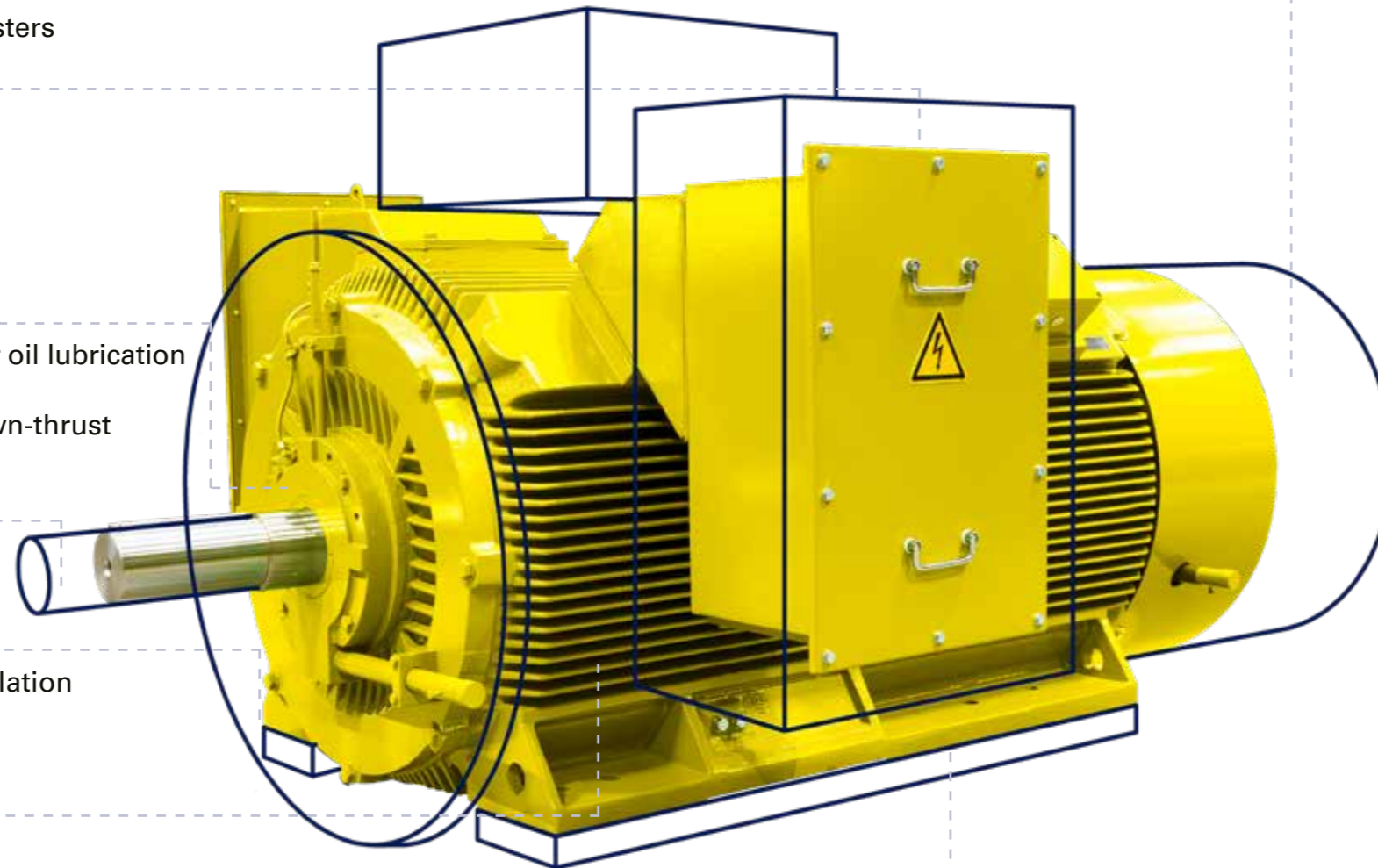
### Mounting and installation

- Adaptations for horizontal or vertical installation
- Foot mounting
- Flange mounting

### Cooling systems

- Special cooling types
- Compact or custom fan covers
- External cooling components

### Adapter frames for size adjustments



## ELECTRICAL SPECIAL SOLUTIONS

### Drive performance and control

- High starting torque options
- Customized speed control behavior
- Integrated braking systems
- Synchronized operation of multiple motors

### Energy efficiency

- High-efficiency designs
- Energy-saving motor configurations

### Custom electrical design

- Application-specific windings
- Windings for higher overload capacity
- Heat-resistant insulation materials

### Intelligent monitoring and diagnostics

- Built-in temperature and vibration sensors (PT100, PTC, IVTC)
- Predictive maintenance capabilities

### Protection and environmental adaptation

- Explosion-proof designs (ATEX-certified)
- High IP protection classes
- Custom insulation systems (heat/humidity)

## READY WHEN YOU ARE: MOTORS FOR URGENT NEEDS

Our inventory is not only extensive but structured for **maximum uptime**: pre-configured motors in various designs, mounting options, and cooling classes are ready for immediate deployment. This enables you to avoid production delays, reduce costly downtime, and maintain operational continuity even in unforeseen situations. With **expert support and fast dispatch**, we deliver tailored motor solutions exactly when and where you need them – helping you stay ahead in critical moments.

## LARGE MOTORS AVAILABLE DIRECTLY FROM STOCK

Skip the wait – Get fast, direct access to our engineers! If your plant is at a **standstill** or if you have an **emergency**, every hour counts. For these special cases, we provide a **24-hour hotline**. MENZEL keeps numerous low-voltage, medium-voltage, and high-voltage motors as well as direct current motors ready to be delivered to you directly from one of the **most extensive stocks** of large industrial motors in Europe.

- DC motors up to 4,000 kW
- Squirrel cage motors up to 25,000 kW
- Slip ring motors up to 20,000 kW





# LOAD TEST FIELD



## ADVANCED IN-HOUSE MOTOR TESTING FOR MOTORS OF ANY MAKE

Another advantage for our customers is our **in-house test facility** simulating **real operating conditions**, including different load profiles and **vertical installation**. This ensures that each motor performs reliably and safely from day one in operation. Our services are available not only for MENZEL motors, but also for **third-party motors of any make** – making our facility a trusted partner for OEMs, operators, and service providers.

Our test facility is equipped with cutting-edge technology to support independent testing for a wide range of motor types and applications. We offer **test voltages** up to 13,800V and variable **frequency** supplies up to 120 Hz. With **electrical power** capacity up to 2,300 kVA, and the option for partial load testing to simulate even higher capacities, our test field is suitable for both standard and highly demanding scenarios. Motors with **shaft power** up to 1,800 kW can be tested for network and system behavior across **speeds** ranging up to 3,600 rpm.

Our infrastructure includes **two test beds** with clamping plates measuring 12 x 5 meters and 9 x 3 meters, as well as an **80-ton overhead crane** with a **hook height** of 7.5 meters above the test area, ensuring safe and efficient handling of even the largest machines. Additionally, our test field features a **thermal tent** to perform motor tests at ambient temperatures exceeding 50°C. Direct **truck access** and integrated **oil and cooling water supply connections** further streamline logistics and setup processes.

We are fully equipped to test explosion-protected motors in compliance with international standards, including **Ex ec, Ex tc, and Ex p motors** (Zone 2, Zone 22, Zone 1). Additionally, we perform testing in line with a variety of industry-specific requirements, such as **IEC, ATEX, DIN EN, BV, DNV, LR, RINA,** and **ABS** standards.

# OUR SERVICES



At MENZEL you directly speak with a project engineer who professionally supports your order from beginning to end and beyond whilst providing personal advice. For us, **quality** is complete fulfillment of customer expectations. This is how we have won the **trust** of innumerable clients over many decades. We can support you quickly, flexibly, and actively with an international team of **highly-trained specialists** and **experienced engineers**.

Competent services and counselling from the initial inquiry to the commissioning of your MENZEL motor and more...

- Consulting, support and engineering
- Complete drivetrain design
- Calculation and construction of all components
- Commissioning by our technical staff
- On-site service and troubleshooting by specialists

To be able to answer your enquiries personally within the shortest time, MENZEL operates various subsidiaries in Europe, and cooperates with numerous partners worldwide. With our subsidiary **Pawils Elektromaschinenbau GmbH** for example, we can offer an **additional service** to our customers in installation, revision, repair and maintenance work for electrical machines. Since 1952 all-round service for electric drive technology in Peine (Lower Saxony):

- Mobile testing technologies
- 50 service staff and 20 service cars
- Control technology, control cabinet construction
- Energy management, drive technology, electrical engineering
- Plant revision, crane services, pump services
- Rental services, power tools, on-site services

# THE INDUSTRIES



Mill motor  
for a gold mine,  
Peru (2020)



Explosion proof motor  
for oil production,  
Algeria (2022)



Three-phase slip ring motor  
for a water pumping station,  
Germany (2019)



Explosion proof motor  
for a compressor  
in the chemical industry,  
Austria (2024)

We offer solutions for:

- Mining & Minerals
- Cement
- Oil & Gas
- Marine & Offshore
- Steel & Rolling Mills
- Chemicals
- Wood & Paper
- Power Generation
- Water & Wastewater
- Recycling



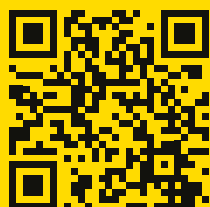
## **MENZEL Elektromotoren GmbH**

Am Alten Walzwerk 2  
16761 Hennigsdorf (near Berlin)  
Germany

District Court of Neuruppin | HRB 14491

### **Managing directors:**

Dipl.-Ing. Mathis Menzel  
Dipl.-Kfm. Dirk Achhammer



✉ [info@menzel-motors.com](mailto:info@menzel-motors.com)

☎ +49 (0)30 349 922-0

**in** Menzel Elektromotoren GmbH