



Slip-ring motors **MAR Series**



ABOUT US

DAC Electric is a fairly young but highly experienced combination of professionals from all over the world.

The founders, from the Netherlands and the Czech Republic, together combine more than 100 years of experience in the field of electrical rotating machines.

From the offices in the two countries, global sales and service is coordinated.

Local markets are being served directly by our local agents.

Our main activities lay in the branches *Industry, Water and Energy*.

We are specialized in developing, manufacturing and supplying special electric machines and drives.

We provide our customers with advice, engineering and eventually with a tailor made machine.

Next to our special engineered products we supply all standard trade products such as; motors, gearboxes, generators, transformers, frequency converters and electronic components.

Our highly experienced develop department has the ability to design and customize standard and non standard motors for every application.

We provide our customers with extensive opportunities to improve the technical condition and operating reliability of their equipment, to optimize work, to improve efficiency and to lower operating costs.

The unique flexibility of being able to supply special tailor-made products and standard industrial machines, combined with more than 100 years experience in the field of drive technology makes us the partner you are looking for!



Motors of **MAR series** are high voltage slip ring motors, also named wound rotor motors. Slip-ring motors are used in applications requiring high starting torque or low starting current. These motors provide maximum availability, and are especially recommended for heavy load inertia applications like mill drives or situations where network conditions are weak.

MAR series motors are of welded construction and have a wide range of accessories.

Welded housing gives these motors a high flexibility of construction execution and provides many advantages to the customer regarding existing base dimensions and other mounting circumstances.

Depending on the application many alternative cooling and enclosure types are available. The enclosed slip ring compartment – located inside or outside the NDE bearings – guarantees a high degree of protection for the complete motor, i.e. for the motor and slip ring compartment.

Features

- Compact design as a result of a high power density and inboard slip ring compartment
- Modular cooling system design
- Low noise
- Terminal box mounted to the motor enclosure
- The cover is de-coupled from the electrical connections
- Motors are either available in a version where the brushes are permanently in contact with the sliprings or a version with brush lifting device



Subject : 2 pieces
: 1050 kW - 6 pole
: 6300 V - 50 Hz
: 25,070 Nm
: IC511 Air cooled

Location : Pumping station Aleppo
: Aleppo
: Syria

Installed : 2008

Customer benefits

- Smaller overall dimensions
- Low space requirement
- Reduced weight
- Integration into every plant and system configuration
- High demands of safety at work legislation are fulfilled
- Service and installation friendly
- Brush operating mode optimally adapted to the process conditions

Stator

The stator casing is made of fabricated steel. Shape and dimensions are selected to ensure minimum vibrations and are designed to ensure easy transport and installation. The stator core is made of silicon steel sheet having low magnetic losses. Stator windings are constructed from copper rectangular wires. The wires are pre-insulated with enamel varnish in combination with glass silk and varnish. The winding is of double layer type, made of individually shaped and continuously insulated coils. The basic materials are mica and epoxy resins. Prepared coils are continuously taped along the whole length with porous tapes on the basis of glass and mica paper. Upon the completion of the procedure, stator is inserted in the stator frame and then all the required connections and tests are carried out prior to vacuum pressure impregnation. The process of vacuum-pressure impregnation (Class F) is followed by the stiffening process in furnace, tests and the insertion of the stator core with winding into the frame. Then the final tests are performed. It is moisture proof and it practically has no limitation with regard to climate conditions, salty atmosphere, acids and lies. By the mentioned insulation system, great mechanical strength of the winding ends has been obtained. There is no limitation to reversals at residual fields of any magnitude and phase angle.

Rotor

The rotor core made from dynamo steel is fitted directly on the shaft with axially cooled motors and on the shaft ribs with radially cooled motors. The rotor windings are of double layer type and constructed from copper rectangular wires. The connections of rotor conductors are made by hard soldering. The rotor bars are insulated by high quality insulating material class F and impregnated by adequate varnish.

Bearings

The drive side and the opposite covers have been designed to incorporate the bearings in accordance with the machine fabrication type as well as its number of poles. The standard configuration is with fixed bearing in the DE and loose one in NDE. Sleeve bearings are used when the motors must operate under extreme conditions. Flanged sections are placed in the covers and the lubrication by oil can be natural, using a self-lubrication ring or forced.

Accessories

Pt100 in stator winding	Hydraulic lubrication unit	Pulse encoder
Pt100 in bearings	Oil pressure system	Air-to-water heat exchanger
Spaceheaters	Capacitors	Water flow meter
Shaft grounding bushes	Lighting arresters	Water flow sight glass
Vibration detectors	Current transformer	Water thermo meter
Oil thermometer	Independent cooling	Water leakage detector
Oil flowmeter	Air thermo meter	Noise reducers



Subject : 6 pieces
: 800 kW - 16 pole
: 6600 V - 50 Hz
: 20,650 Nm
: IC511 Air cooled

: 2 pieces
: 370 kW - 10 pole
: 6600 V - 50 Hz
: 5,950 Nm
: IC511 Air cooled

Location : Pumping station Hull West
: Hull
: England, United Kingdom

Installed : 2009

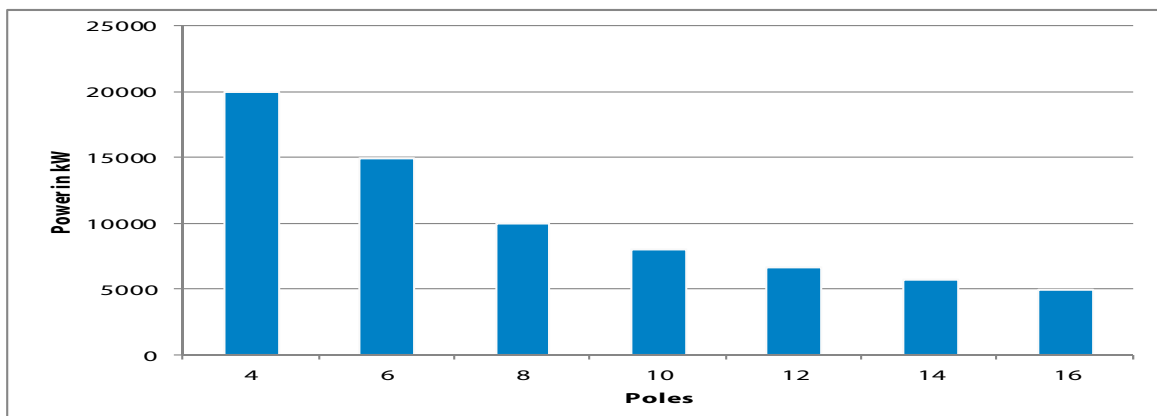


Subject : 4 pieces
: 650 kW - 12 pole
: 6600 V - 50 Hz
: 12,560 Nm
: IC511 Air cooled

: 3 pieces
: 250 kW - 8 pole
: 415 V - 50 Hz
: 3,250 Nm
: IC411 Air cooled

Location : Pumping station Hull East
: Hull
: England, United Kingdom

Installed : 2009





PRODUCTS

The existence of DAC Electric is based on designing and engineering special tailored made products. In order to serve our customers in their broad needs of products in drive industry we have extended our product portfolio with drive components from other well known manufacturers.

Therefore we offer a wide range of products which are divided in below five sections:

MOTORS

- Low voltage Squirrel cage motors
- High voltage Squirrel cage motors
- Low voltage Slip ring motors
- High voltage Slip ring motors
- Direct current motors
- Permanent Magnet motors
- Submersible motors
- Synchronous motors
- Low speed direct drive motors

TRANSFORMERS

- Oil filled transformers
- Dry type transformers in VPI execution
- Dry type transformers in cast resin execution

MECHANICS

- Couplings
- Geared motors
- Gear-units

GENERATORS

- Hydro generators
- Low voltage generators
- High voltage generators

ELECTRONICS

- Softstarters
- Variable speed drives
- Electronic components

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