

# VYBO Electric products

Electric motors for standard and heavy operation - powerful, efficient and flexible



SOLUTIONS FOR INDUSTRY



# Introduction





# Company

**VYBO Electric** is a Hi-tech manufacturing plant and supplier of industrial electric motors with wide range of products. Manufacture plant is located in European Union in the Slovak Republic in Spisska Nova Ves in the Central Eastern part of the country. We have extensive experience in the production of electric motors and in the design of electric drive itself.



**More than 120 years of the electrical industry in our region...**

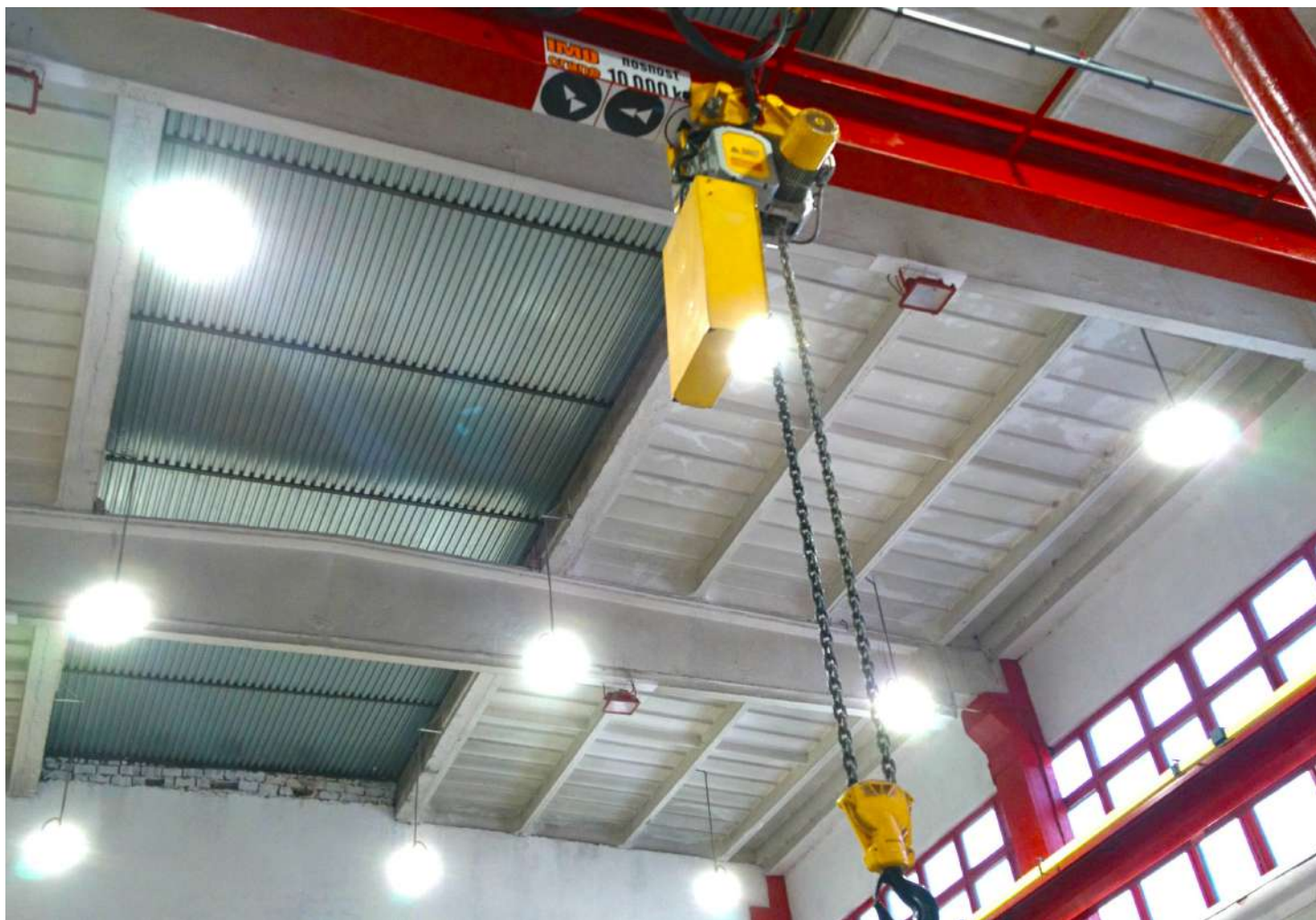
The location has been known for the electrotechnical industry and also for the manufacture of electric motors and electrotechnical equipment for over 120 years. The Slovak Republic is still one of the leading manufacturers of electric and technical equipment.

**Maximum quality, maximum flexibility and superfast delivery times...**

VYBO Electric is a specialist for high-tech, high efficiency big power and high voltage motors. The company is one of the leading suppliers of big power and medium, high voltage motors in European union.









# Quality management and certificates



**VYBO Electric** is a modern High-tech energy saving company that pays high attention to quality, environment, safety and precision and efficiency of work and energy in production. Therefore, it holds a lot of certificates and quality control systems.

**Our priority is quality control.**

**Basic certificates include:**

## **ISO14001**

The purpose of ISO 14001 Environmental Management Systems is to prevent and plan to reduce the environmental impact of activities, products and services to the organization.



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## **OHSAS18001**

Standard ISO 45001 (Occupational Health and Safety Management Systems) is a new standard and the first international standard that sets requirements for occupational health and safety management systems



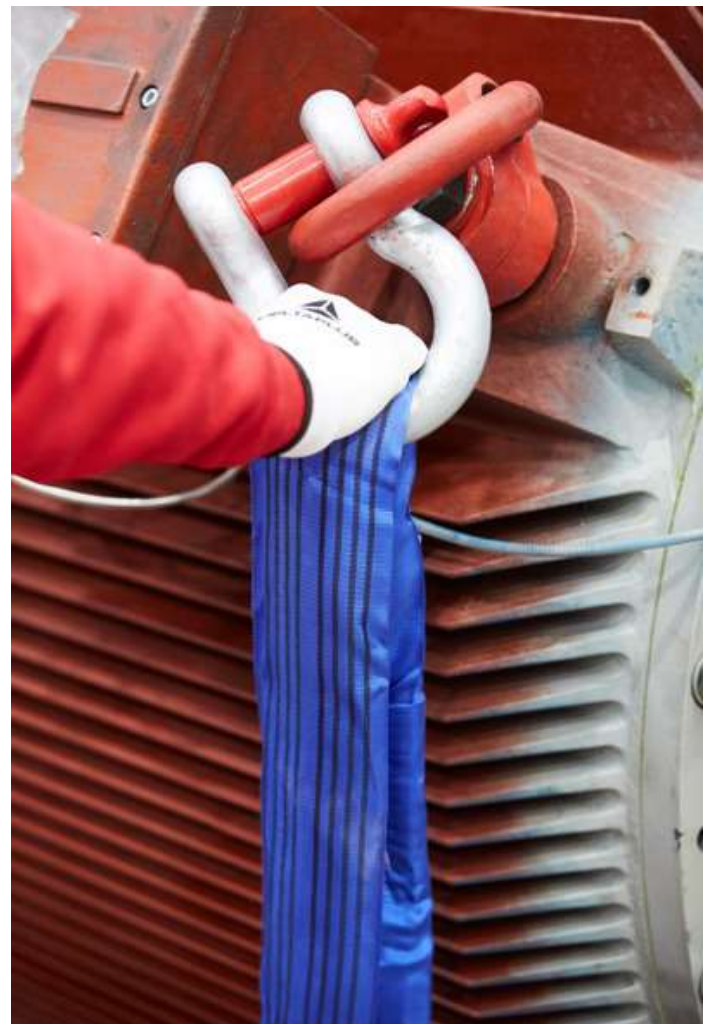
## ISO50001

energy management systems Energy efficiency helps organizations save money, as well as saving resources and preventing climate change. ISO 50001 encourages organizations in all sectors to use energy more efficiently through the development of an energy management system. International Standard ISO 50001: 2011 specifies requirements for building, maintaining and improving the energy management system. Its aim is to enable organizations to systematically pursue an approach to achieving lasting improvements in energy efficiency, energy efficiency, energy use and consumption.



## ISO17025

General requirements for the competence of testing and calibration laboratories





# VYBO ELECTRIC production program

The production program of VYBO Electric focuses primarily on quality.

The main advantages of the company are: high quality, flexibility, short delivery times and a very wide range of electric motor production. The company has a very rich experience in manufacturing and supplying various types of electric motors.

It can design and manufacture an electric motor for precise customer requirements.

## Stator frames:

- gray cast iron for ribbed frame
- also welded frames for finned electric motors due to certain advantages
- welded tubular frames
- welded modular designs for high power electric motors
- also modular frames in gray cast iron
- special aluminum frames for low weight applications.



## Rotors:

- rotor with closed squirrel cage – copper rotor cage
- rotor with closed squirrel cage – aluminum rotor cage
- slip ring rotors
- rotors with double copper cages

## Winding:

- all windings are solved with high-tech VPI technology  
(more information on questions for projects)

## Testing:

- we perform type tests, piece tests
- full load testing after electric motor production (up to 10MW)
- routine tests
- and others ...

**VYBO Electric is ranked among the top quality.**



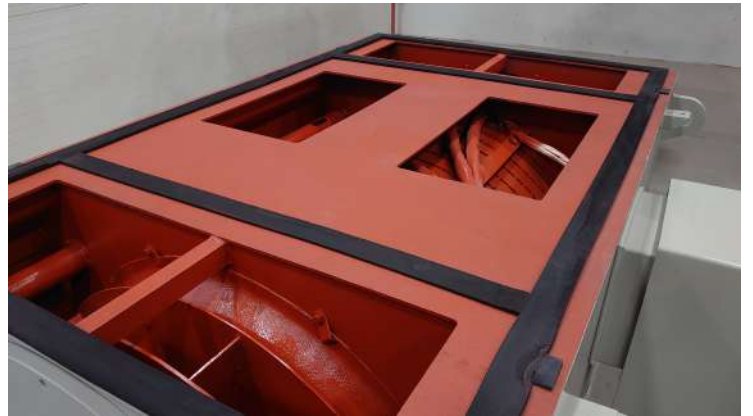
# VYBO ELECTRIC Solutions

- very wide product range
- many types of electric motors with very fast delivery times









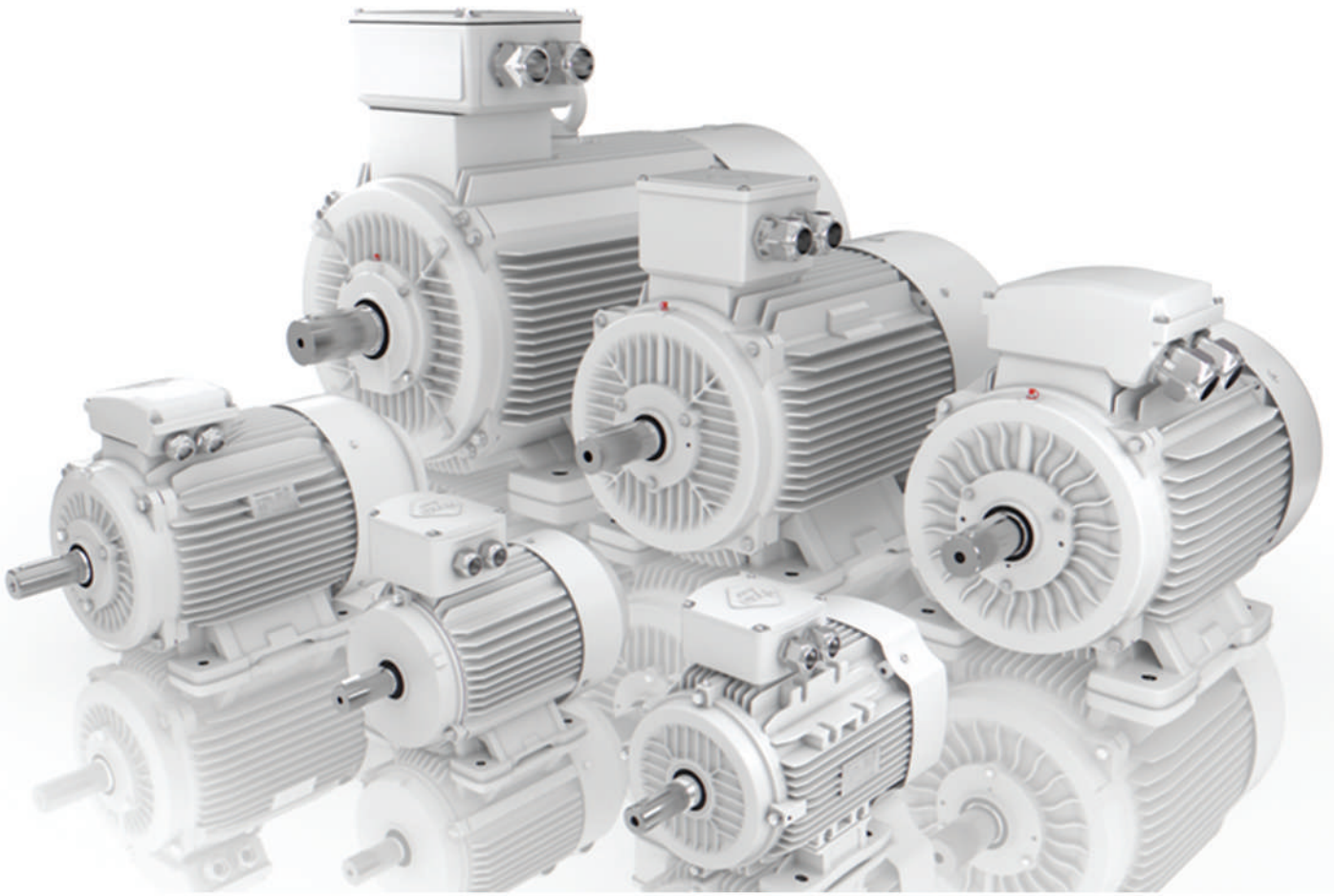






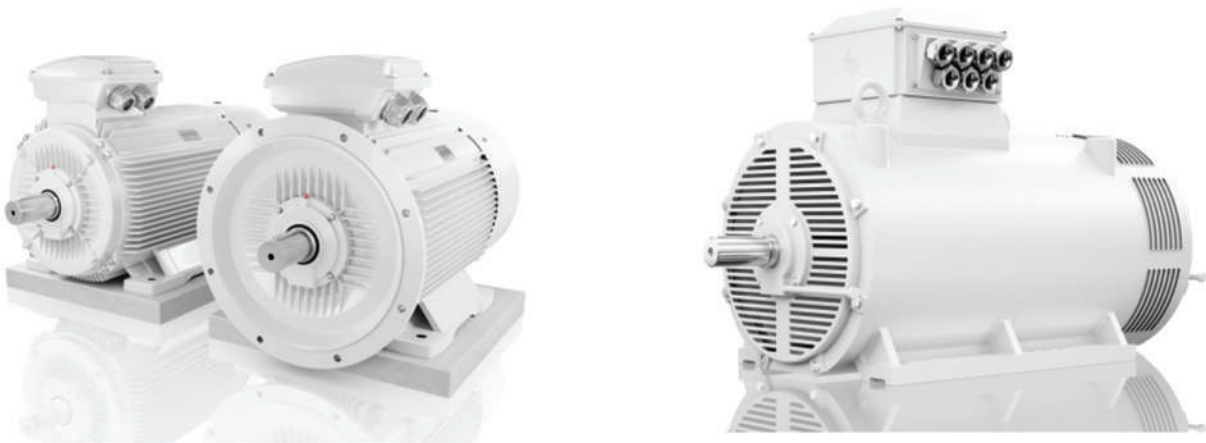






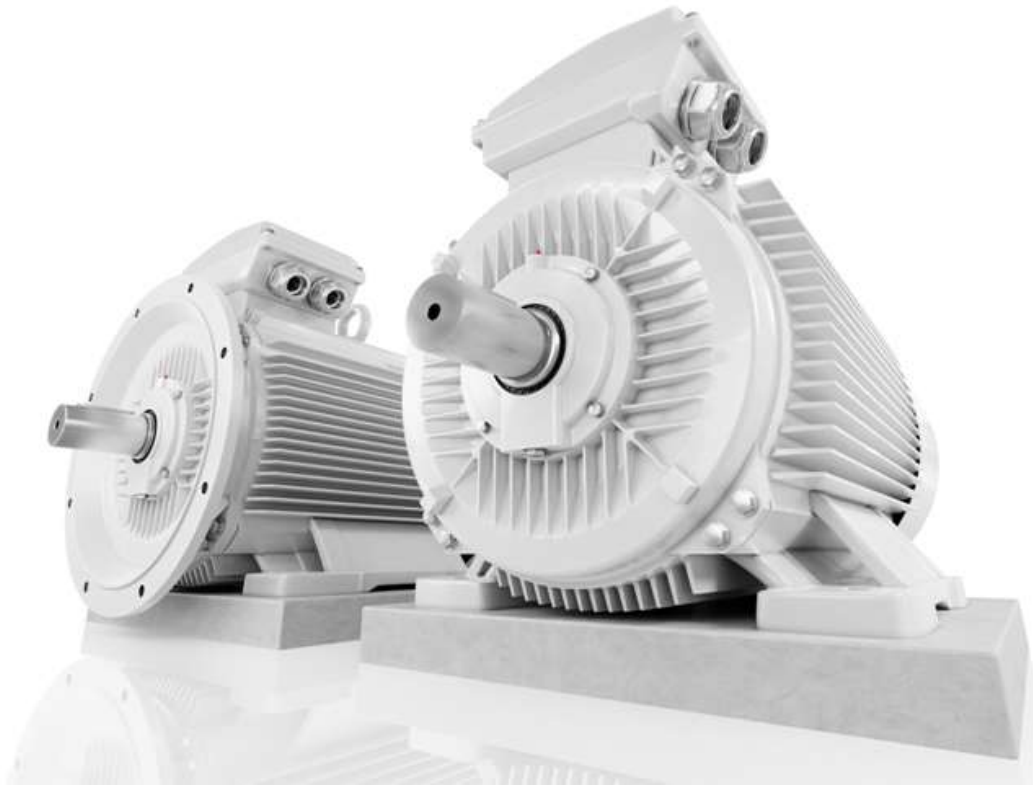
# Electric motors IEC

Low voltage IEC motors 0,75kW-400kW



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# Electric motors IEC



## Electric motors IEC

**Power:** 0,75 kW - 400 kW  
**Speed:** 3000/1500/1000/750 and less rpm  
**Frame size:** 160-355  
**Voltage:** 230/400V, 400/690V, 500V  
**Frequency:** 50/60 Hz  
**Protection class:** IP55  
**Efficiency class:** IE1 (only special applications), IE2, IE3 (Premium Efficiency), IE4 (super premium efficiency)  
**Insulation class:** F/B

**Color:** RAL 7030 (stone grey) (can choose)  
**Mounting:** IM B3, IMB35, IMB5, IMV1...  
**Type of cooling:** IC 411 self-cooled, IC 416 forced-air cooling  
**Coolant temperature:** Standard: -20°C to +40°C  
**Installation altitude:** 1000 m above sea level  
**Housing material:** Cast iron  
**Direction of rotation:** clockwise/counter-clockwise  
**Poles:** 2-24 poles

## Gallery - 3D

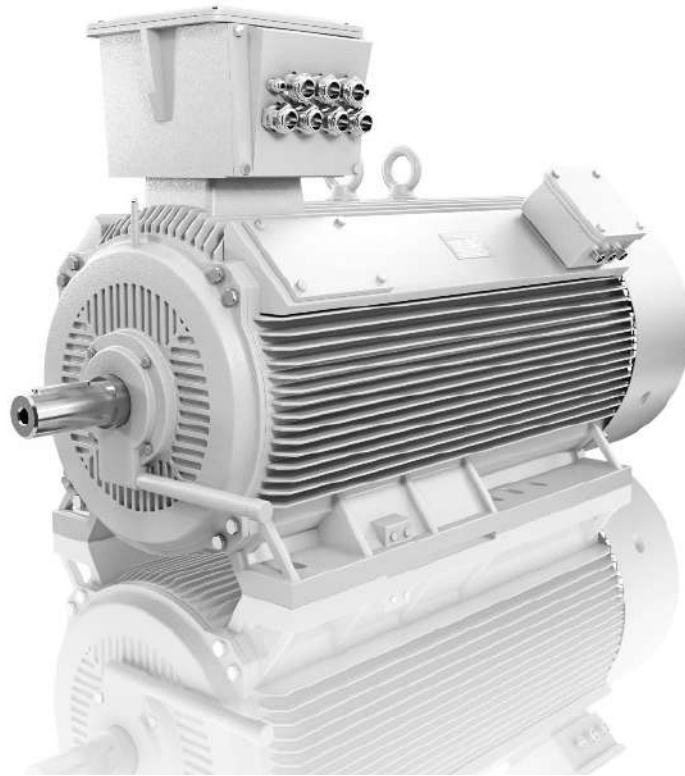




# Electric motors IEC



# H17RL type - Low voltage big power electric motors

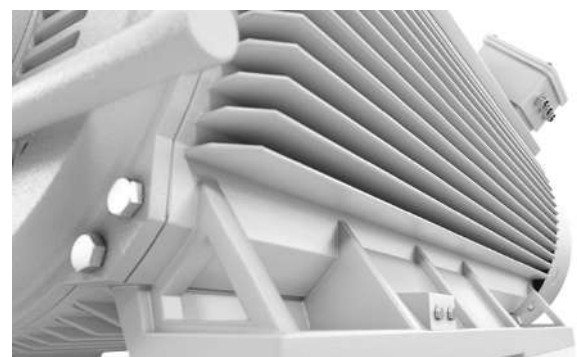
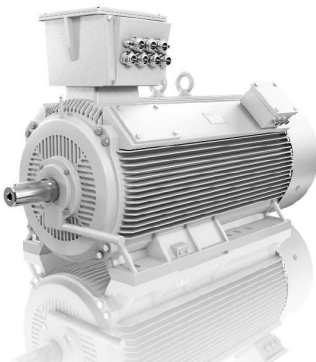


## Electric motors H17RL series

**Type of motor:** H17RL  
**TEFC:** Totally enclosed fan cooled three phase asynchronous electric motor, can be equipped with ventilation  
**Frame sizes:** 315 mm - 630 mm  
**Power range:** 132 kW - 3000 kW  
**Voltage:** 380 V - 1000 V  
**Frame material:** cast iron frame, optionally welded frame  
**Protection:** IP 55, 65, 67

**Cooling:** IC 411, IC 416 (ribbed cooled)  
**Mounting:** B3, B35, V1, IM V15  
**Possible:** Special winding of VFD use, can support several kinds of voltage and frequency  
**Accessories:** PT100, PTC and other thermal elements can be chose to protect bearings and winding, Heaters, anti-vibrations senzors and other

## Gallery - 3D





# Low voltage large electric motors 4LD - series



## Low voltage large electric motors 4LD series

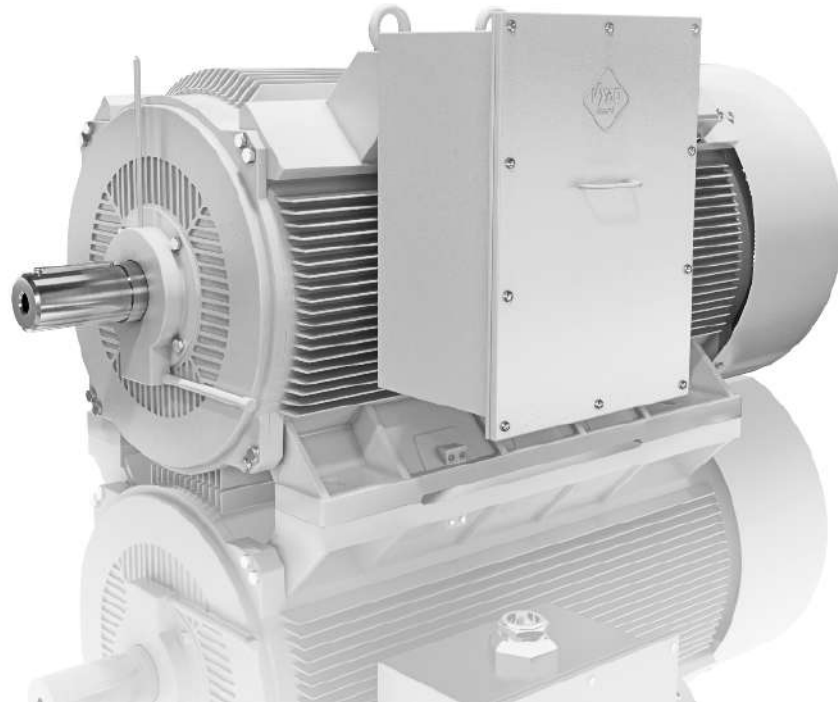
**Type of electric motor:** 4LD  
**TEFC:** Totally enclosed fan cooled three phase asynchronous electric motor, can be equipped with ventilation  
**Frame size:** 400 mm - 630 mm  
**Power range:** 200 kW - 2400 kW  
**Voltage:** 380 V - 1000 V  
**Frame material:** cast iron frame, optionally welded frame  
**Protection:** IP55, 65, 67

**Cooling:** IC411, IC416 (ribbed cooled)  
**Mounting:** B3, B35, V1, IM V15  
**Possible:** Special winding of VFD use, can support several kinds of voltage and frequency  
**Accessories:** PT100, PTC and other thermal elements can be choose to protect bearings and winding. Heaters, anti-vibrations sensors and other

## Gallery - 3D



# H17R - Medium and high voltage electric motors

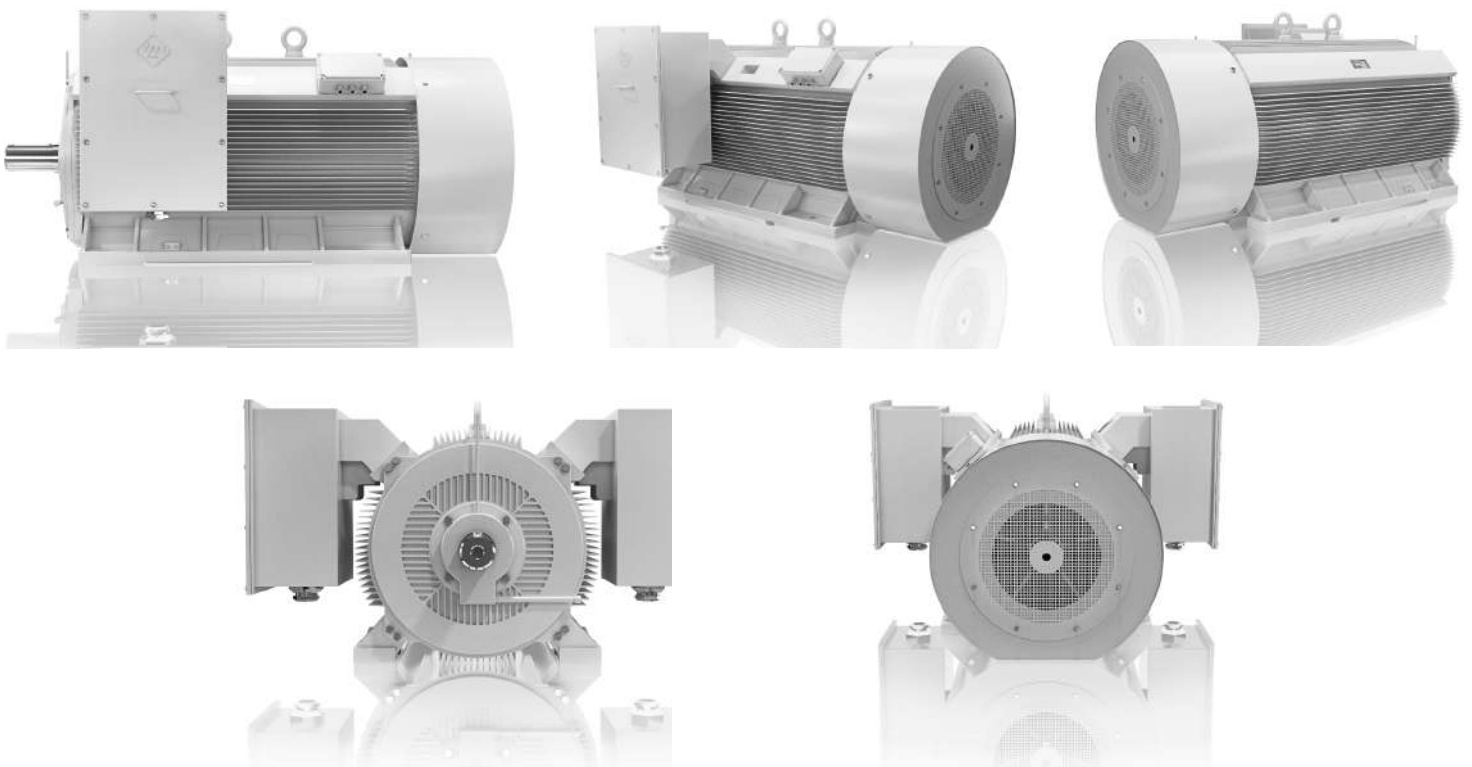


## Electric motors H17R series

**Type of motor:** H17R  
**TEFC:** Totally enclosed fan cooled three phase asynchronous electric motor, can be equipped with ventilation  
**Frame sizes:** 315 mm - 630 mm  
**Power range:** 132 kW - 3000 kW  
**Voltage:** 1000 V - 13 800 V  
**Frame material:** cast iron frame, optionally welded frame  
**Protection:** IP 55, 65, 67

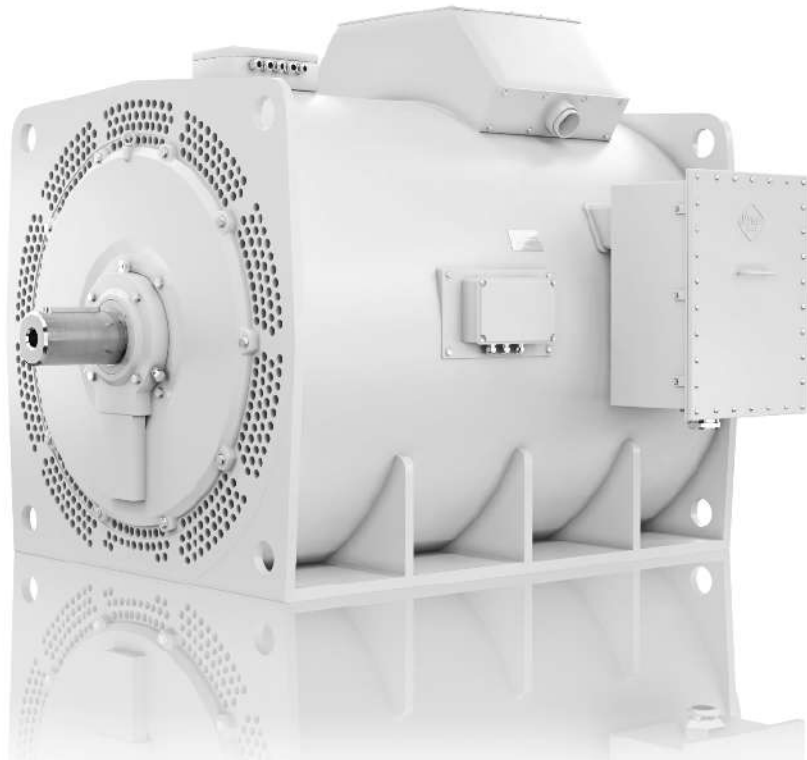
**Cooling:** IC 411, IC 416 (ribbed cooled)  
**Mounting:** B3, B35, V1, IM V15  
**Possible:** Special winding of VFD use, can support several kinds of voltage and frequency  
**Accessories:** PT100, PTC and other thermal elements can be chose to protect bearings and winding, Heaters, anti-vibrations senzors and other

## Gallery - 3D





# H27RT - High voltage motors IC511



## Electric motors H27RT series

**Type of motor:** H27RT  
**TEFC:** Totally enclosed fan cooled three phase asynchronous electric motor, can be equipped with ventilation

**Frame sizes:** 355 mm - 900 mm  
**Power range:** 132 kW - 7000 kW  
**Voltage:** 1000 V - 13 800 V (Customized too on low voltage 380 - 1000 V)

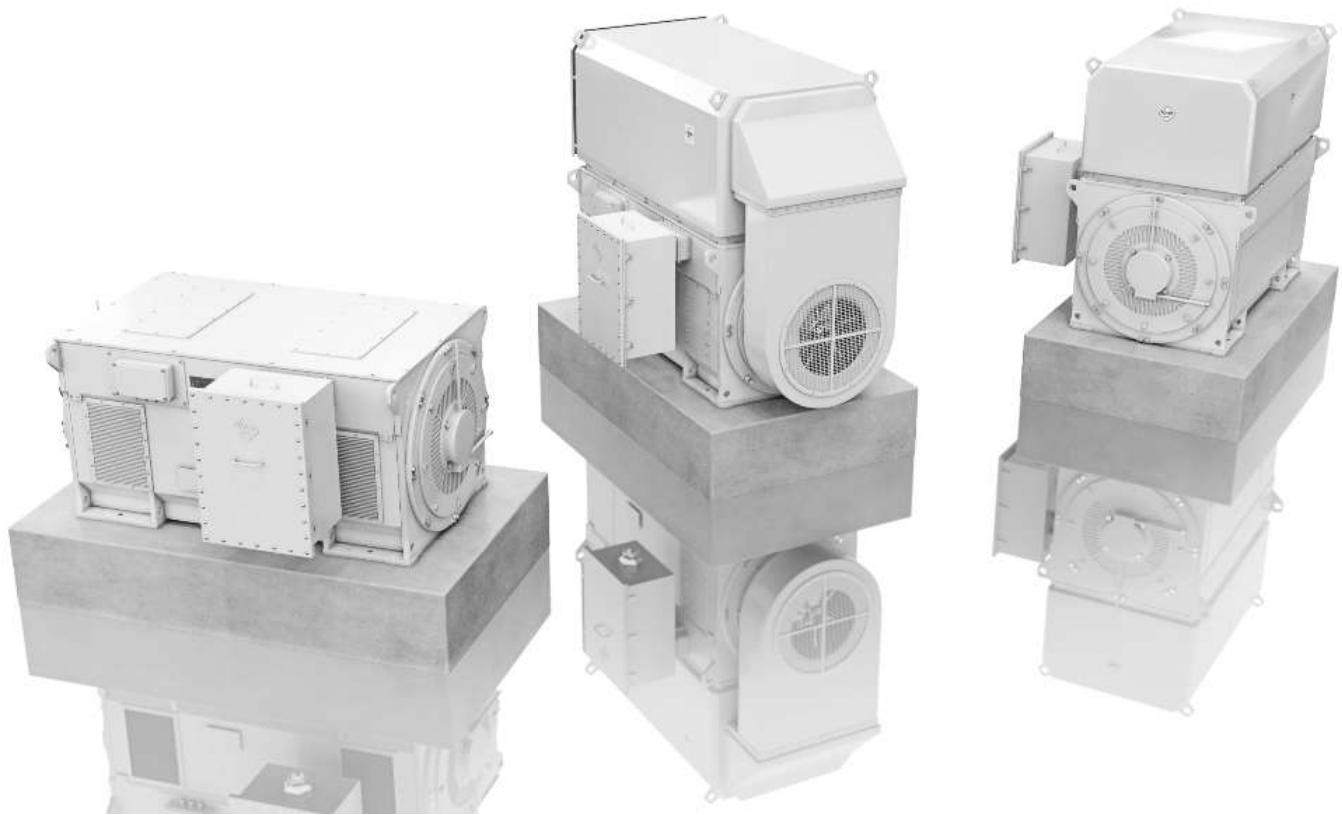
**Frame material:** welded frame  
**Protection:** IP 55, 65, 67

**Cooling:** IC 511, IC 516 (tube cooled)  
**Mounting:** B3, B35, V1, IM V15  
**Number of poles:** 2 - 40  
**Frequency:** 50 Hz, 60 Hz (and customized)  
**Possible:** Special winding of VFD use, can support several kinds of voltage and frequency  
**Accessories:** PT100, PTC and other thermal elements can be chose to protect bearings and winding Heaters, anti vibrations senzors and other

## Gallery - 3D



# H27R - High voltage motors - modular types



## Electric motors H27R series

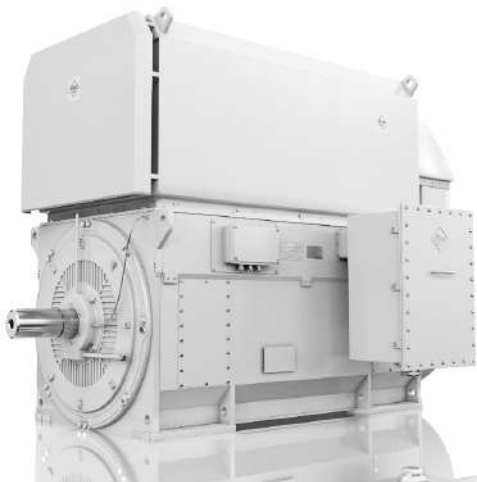
**Type of motor:** H27R (squirrel cage motor)  
**Frame sizes:** 355 mm - 1000 mm  
**Power range:** 132 kW - 20 000 kW  
**Voltage:** 2000 V - 13 800 V  
**Frame material:** welded steel frame  
**Protection:** IP 44, 54, 55, 65, 67  
**Cooling:** IC611, IC616, IC666, IC81W, IC86W, IC01, IC06

**Mounting:**  
**Possible:**

B3, B35, V1, IM V15  
 Special winding of VFD use, can support several kinds of voltage and frequency  
 PT100, PTC and other thermal elements can be chose to protect bearings and winding Heaters, anti-vibrations senzors and other

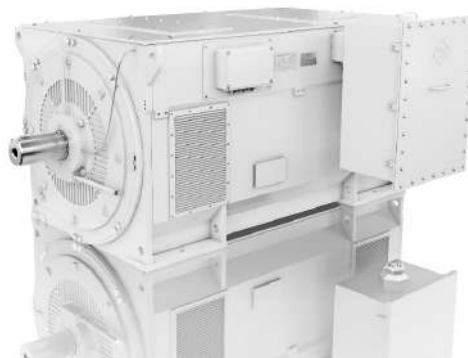
**Accessories:**

## Gallery - 3D



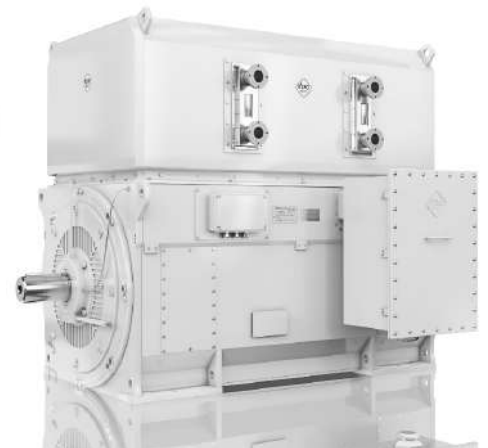
**TEFC (totally enclosed fan cooling)**

air-to-air  
IC 611, IC 616, IC 666



**Open drip proof cooling**

with open circuit ventilation  
IC 01, IC 06

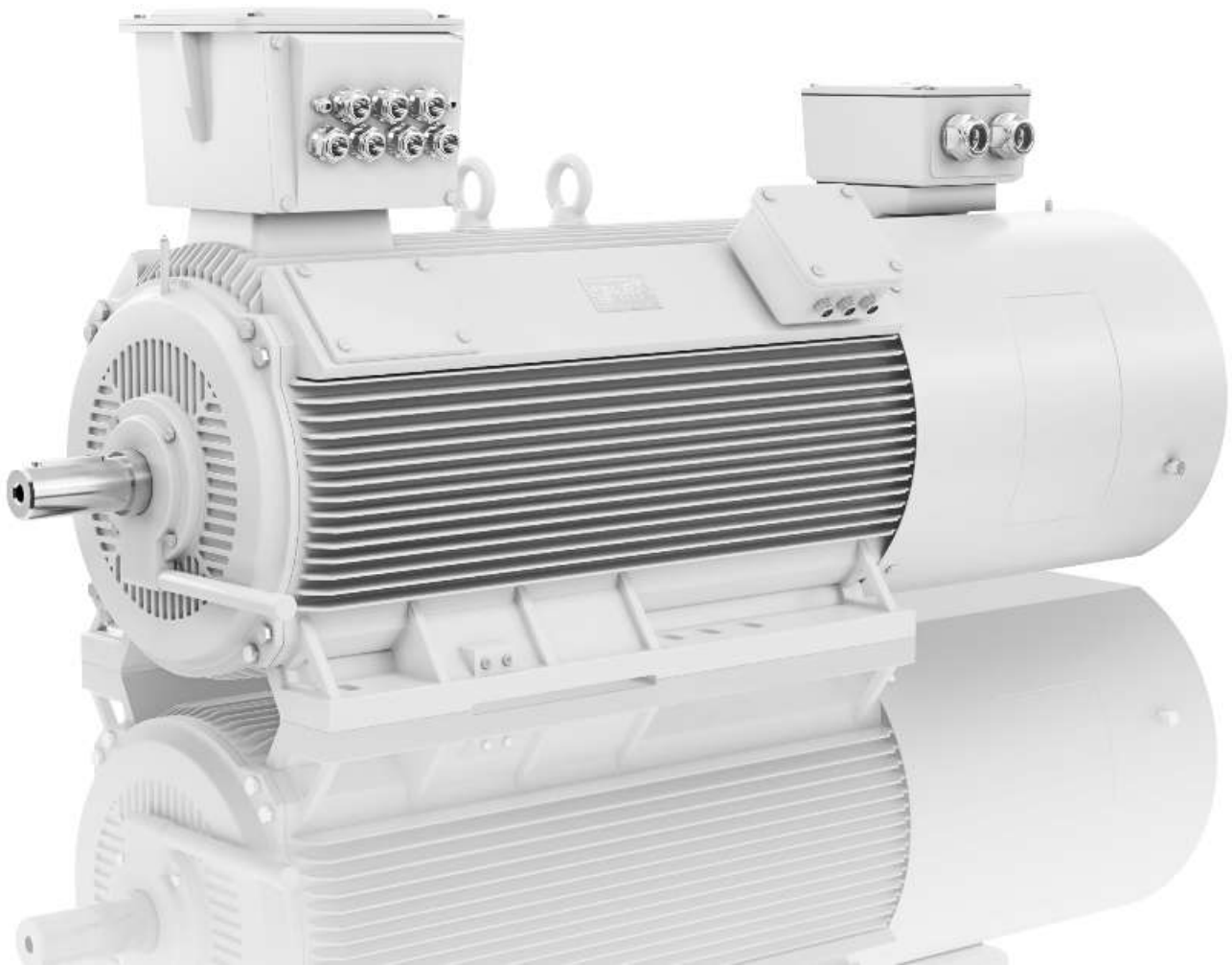


**Water cooled**

air to water heat exchanger  
IC 81W, IC 86W



# H17RL - Low voltage slip ring electric motors



## Electric motors H17RL-SR series

**Type of motor:** H17RL-SR  
**TEFC:** Totally enclosed fan cooled three phase asynchronous slip ring electric motor  
**Frame sizes:** 280 mm - 560 mm  
**Power range:** 132 kW - 2000 kW  
**Poles:** 4 - 24 poles  
**Voltage:** 380 V - 1000 V  
**Frame material:** cast iron frame, optionally welded frame

**Protection:** IP 55, 65, 67  
**Cooling:** IC 411  
**Mounting:** B3, B35, V1, IM V15  
**Accessories:** PT100, PTC and other thermal elements can be chose to protect bearings and winding Heaters, anti-vibrations senzors and other

## Gallery - 3D



# H27RT-SR - slip ring motors with IC 511 cooling



## Electric motors H27RT-SR series with special tube cooling IC 511

**Type of motor:** H27RT-SR (slip ring)  
**TEFC:** Totally enclosed fan cooled three phase asynchronous slip ring electric motor  
**Frame sizes:** 355 mm - 900 mm  
**Power range:** 132 kW - 5000 kW  
**Voltage:** 1000 V - 13 800 V (Customized too on low voltage 380 - 1000 V)  
**Frame material:** welded frame

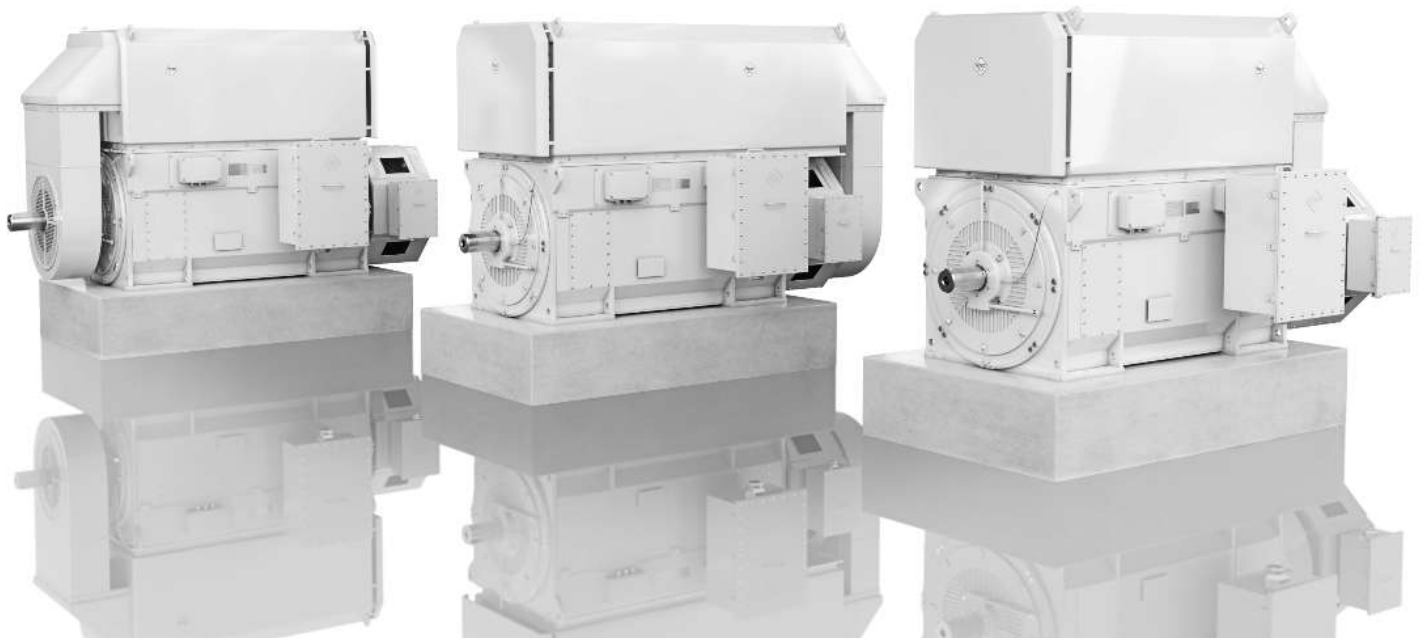
**Protection:** IP 55, 65, 67  
**Cooling:** IC 511, IC 516 (tube cooled)  
**Mounting:** B3, B35, V1, IM V15  
**Number of poles:** 2 - 40  
**Accessories:** PT100, PTC and other thermal elements can be chose to protect bearings and winding Heaters, anti-vibrations senzors and other

## Gallery - 3D





# H27R-SR - slip ring motors - modular types



## Electric motors H27R-SR

**Type of motor:** H27R-SR (slip ring motor with wound rotor)  
**Frame sizes:** 355 mm - 1000 mm  
**Power range:** 132 kW - 20 000 kW  
**Voltage:** 2000 V - 13 800 V  
**Frame material:** welded steel frame  
**Protection:** IP 44, IP 54, IP55  
**Cooling:** IC 6'11, IC 6'16, IC 666, IC81W, IC86W, IC01, IC 06

**Mounting:**  
**Possible:**

B3, B35, V1, IM V15

Possible customized voltage of wound rotor

**Accessories:**

PT100, PTC and other thermal elements can be chose to protect bearings and winding Heaters, anti-vibrations senzors and other

## Gallery - 3D



**Motors with fan on NDE side in front of slip ring head**

Modular slip ring motor type IC 6'11



**Motors with fan on NDE side behind slip ring head**

Modular slip ring motor type IC 6'11



**Motors with fan on DE side**

Modular slip ring motor type IC 6'11



**Motors open drip proof**

Modular slip ring motor type IC01, IC06



**Motors with external cooling**

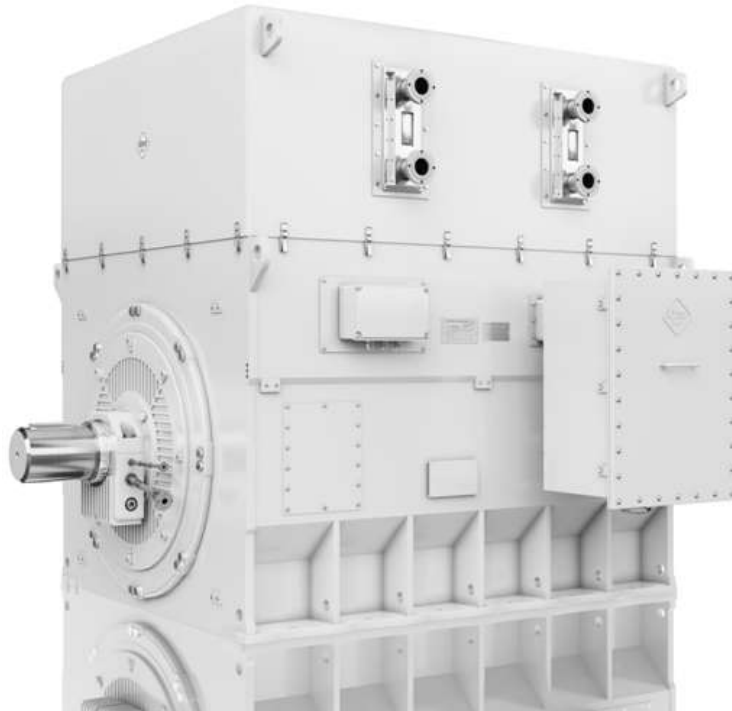
Modular slip ring motor type IC6'16



**Motors with water cooled**

Modular slip ring motor type IC81W, IC86W

# H30R - high power electric motors



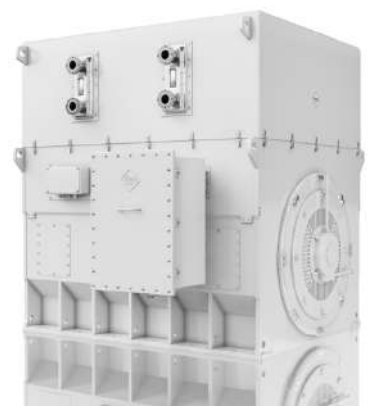
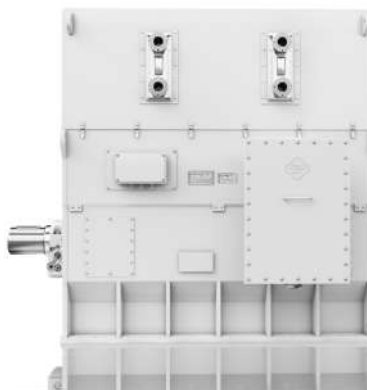
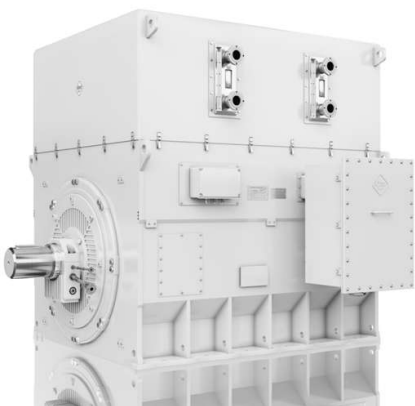
## Electric motors H30R - medium and high voltage large scale motors in big power

**Type of motor:** H30R  
**TEFC:** Totally enclosed fan cooled three phase asynchronous electric motor, can be equipped with ventilation

**Frame sizes:** 355 mm - 1500 mm  
**Power range:** 5000 kW - 30 000 kW  
**Voltage:** 3000 V - 13 800 V  
**Frame material:** welded frame  
**Protection:** IP 55  
**Cooling:** IC 611, IC 616, IC 666, IC 81W, IC 86W, IC 01, IC 06

**Mounting:** B3, B35, V1, IM V15  
**Number of poles:** 2 - 40  
**Frequency:** 50 Hz, 60 Hz (and customized)  
**Possible:** Special winding of VFD use, can support several kinds of voltage and frequency  
**Accessories:** PT100, PTC and other thermal elements can be chose to protect bearings and winding. Heaters, anti-vibrations senzors and other

## Gallery - 3D





# 1, 2, 3LC ODP series of electric motors



## Electric motors 1, 2, 3 LC ODP

**IE Class** IE1, IE2, IE3  
**Output** 55kW - 710 kW  
**Poles** 2 / 4 / 6 pole  
**Speeds** 1000 - 3600 RPM  
**RPM frequency** 50 Hz / 60 Hz  
**Cast Iron framesize** 160 - 355  
**Protection** IP 23

**Temperature class:** B, F  
**Cooling:** IC01  
**Insulation class:** F, H  
**Duty type:** S  
**Standards:** IEC 60034-30 / IEC 60034-1-30  
**Voltage:** 400V Δ. Other voltages can be supplied on request.

## Gallery - 3D





## Address

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