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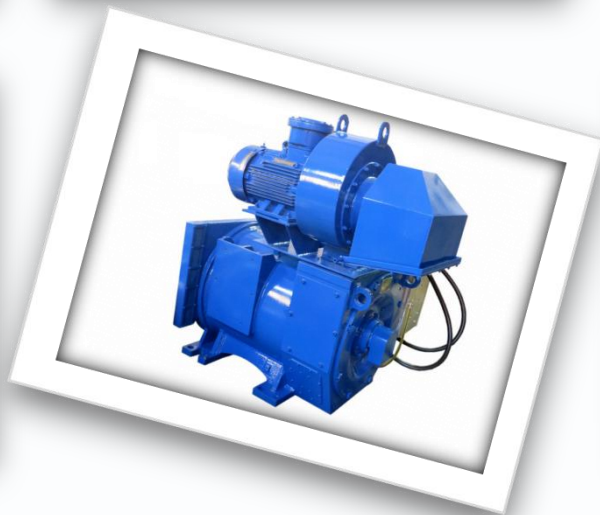
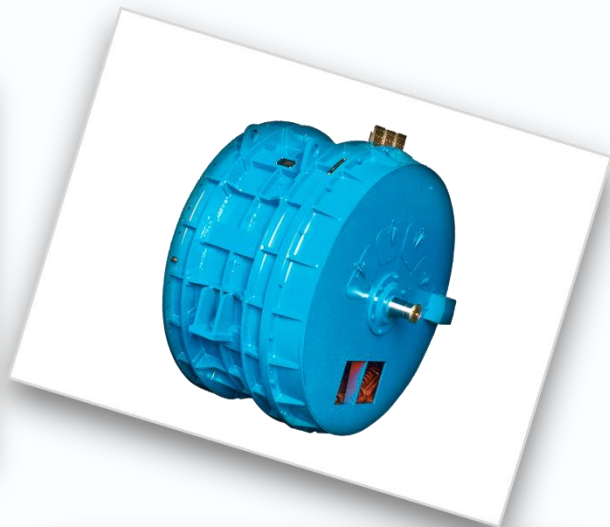
Traction motors, oilfield motors, Wind turbine
and motor components

Yuncheng Anjie Fan & Electrical Co., Ltd. - Product Introduction



Traction motor

PART 01



YZ95A

Product Overview

This motor is designed for traction applications in mining electric locomotives for the CIS market. Featuring a six-pole configuration, double-sided drive, multiple armature slots (123 slots), a compensation system assembly, cast steel frame, sliding clamp bearings, and a rotatable gear brush holder ring, it is particularly suited for high-voltage operating conditions and harsh environments.



Product Technical Standards and Specifications

Rated Power: 520 kW

Rated Voltage: 1475 V

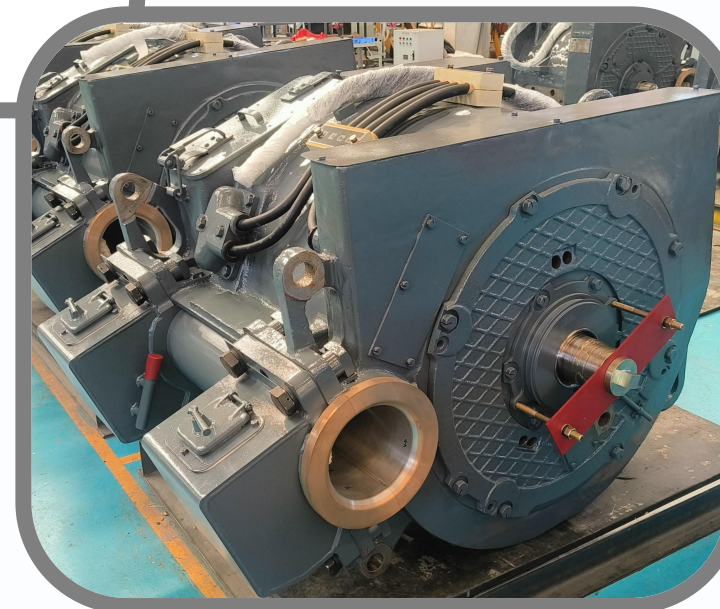
Rated Current: 380 A

Rated Speed: 680 r/min

Rated Torque: 7303 N·m

Insulation Class: H

Weight: 4598 kg



Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.

➤ EK590

Product Overview

The EK590 series traction motor is a high-performance DC traction power unit specifically engineered for heavy-duty industrial applications. With its robust 590kW rated power output, high efficiency conversion rate of 93.6%, and explosion-proof design, it has become the core power solution for heavy-duty sectors such as mining dump trucks and heavy rail equipment. Currently, it serves industrial clients across Eastern Europe, the Middle East, and Western Europe, and has been included in key procurement lists for markets including Ukraine.



Product Technical Standards and Specifications

Rated Power: 590 kW
Rated Voltage: 830 V
Rated Current: 760 A
Rated Speed: 910 r/min
Maximum Speed: 2500 r/min
Rated Efficiency: 93.6%
Overload Capacity: 180% (short-term)
Protection Rating: Explosion-proof
Cooling Method: Forced ventilation
Weight: 3300 kg



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➤ ZQDR310

Product Overview

The ZQDR-310 DC traction motor is a four-pole, forced-ventilation, series-wound DC traction motor extensively employed in various narrow-gauge diesel locomotives. Designed incorporating C-series motor technology, its performance is comparable to the CE761A19, with interchangeability of both complete units and components.



Product Technical Standards and Specifications

Rated Power: 310 kW

Rated Voltage: 500 V

Maximum voltage: 1200V

Rated Current: 680 A

Maximum current: 1000A

Rated Speed: 760 r/min

Maximum Speed: 3100 r/min

Insulation class: H

Cooling airflow: 80m³/s

Weight: ≤1670kg



Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.

➤ ZD126E

Product Overview

This motor is designed for narrow-gauge diesel locomotives, featuring an enhanced power output based on the original narrow-gauge motor design. It represents the next generation of DC traction motors for narrow-gauge vehicles. Key characteristics include high constant torque, a broad power-to-speed ratio range, excellent commutation performance, and superior versatility and compatibility. It currently stands as China's highest-power traction motor for narrow-gauge diesel locomotives.



Product Technical Standards and Specifications

Rated Power: 323 kW

Rated Voltage: 500 V

Rated Current: 710 A

Maximum current: 1000A

Rated Speed: 740 r/min

Maximum Speed: 3100 r/min

Insulation class: H

Cooling airflow: 80m³/s

Weight: ≤1700kg

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➤ ZD108

Product Overview

This traction motor is a four-pole series-wound DC traction motor, interchangeable with the GE752AF8.



Product Technical Standards and Specifications

Rated Voltage: 376 V
Rated Current: 1180 A
Rated Speed: 463 r/min
Rated torque: 8200 N•m
Starting current: 1300 A
Maximum voltage: 1300 V
Maximum current: 1600 A
Rated efficiency: 89.6%
Insulation class: H
Weight: 3210 kg

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YZ141B

Product Overview

The YZ141A is an export-grade narrow-gauge DC traction motor designed to replace D29 and D31 series motors undergoing international market repairs.

This motor employs a sliding bearing structure, featuring a wave-wound armature coil secured by steel wire binding, with brush holders utilising constant-pressure spiral springs.



Product Technical Standards and Specifications

Rated Power: 291 kW

Rated Voltage: 615 V

Maximum voltage: 1000 V

Rated Current: 520 A

Maximum current: 650 A

Rated Speed: 534 r/min

Maximum Speed: 2268 r/min

Rated efficiency: 91%

Cooling airflow: 70m³/s

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Product Overview

HXD21000 Series (New Eight-Axle Freight Electric Locomotive): This motor features a rolling-clamp structure with a fully laminated welded frame and single-end output. It employs forced external ventilation, with cooling air entering via the drive end and exiting through the non-drive end. Dual-end insulated bearings are utilised, with the drive gear mounted between the two bearings. The drive-end bearing is an oil-lubricated, maintenance-free bearing, while the non-drive-end bearing is a serviceable grease-lubricated bearing. This motor is characterised by high power and high speed, making it suitable for high-speed, heavy-load electric locomotives.

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Product Technical Standards and Specifications

Rated Power: 1275kW

Rated Voltage: 1391V

Rated Current: 620 A

Rated Speed: 1500 r/min

Rated frequency: 76Hz

Mounting method: Roll-on structure

Weight: ≤750kg



➤ JF204D1 Main Generator

Product Overview

DF8B diesel locomotive/DF11 diesel locomotive, employing a single-bearing support system with carbon brushes and forced-air cooling.



Product Technical Standards and Specifications

Rated Capacity: 3700 kVA

Rated Voltage: 507/770 V

Rated Current: 4215/2775 A

Rated Speed: 1000 r/min

Insulation Class: H

Excitation Method: Separately Excited

Rated Excitation Voltage: 69/85 VDC

Rated Excitation Current: 295/360 ADC

Frequency: 116.7 Hz

Power Factor: 0.95

Weight: 6032 kg

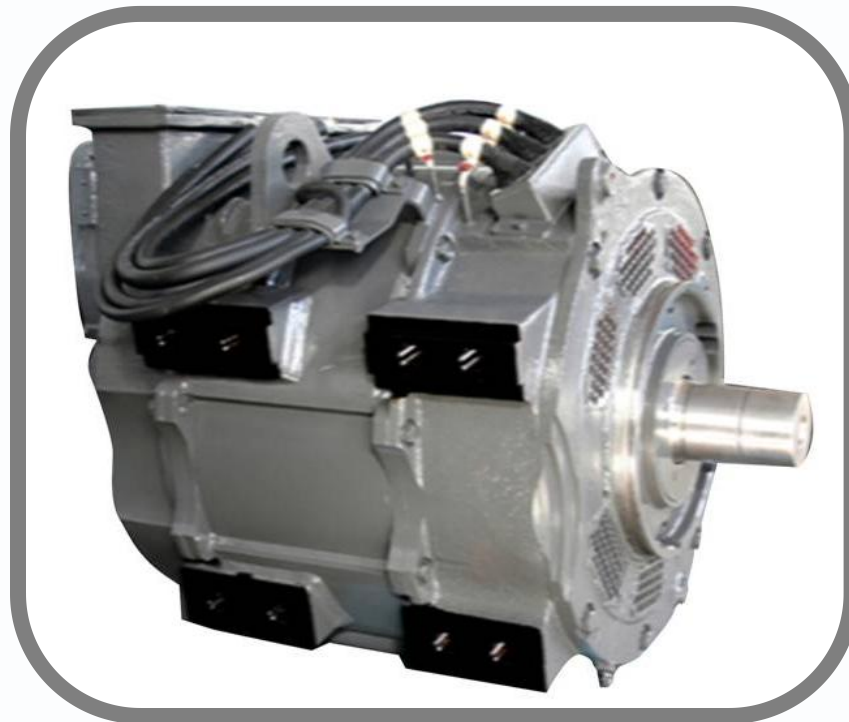
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YJ85A AC Traction Motor

Product Overview

The YJ85A motor is a three-phase squirrel-cage asynchronous traction motor powered by an inverter, initially manufactured for use in 120km/h freight electric locomotives. This motor features a rolling-clamp structure with single-end output; it employs forced external ventilation, with cooling air entering at the non-drive end and exiting at the drive end; it utilises a three-bearing configuration, all bearings being insulated; oil filling ports are provided at both end covers, allowing grease replenishment during operation.



Product Technical Standards and Specifications

Rated power: 1250 kW

Rated voltage: 2150 V

Rated current: 390 (fundamental) A

Rated speed: 1365 r/min

Rated power factor: 0.91

Rated efficiency: 95%

Constant power speed range: 1365–2662 r/min

Stator winding connection: Y

Number of poles: 4

Insulation class: 200

Cooling method: Forced ventilation, air volume 92 m³/min, static air pressure 2800 Pa

Duty cycle: Continuous

Suspension method: Roller-type

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YJ116A AC Traction Motor

Product Overview

The YJ116A2 motor is a three-phase squirrel-cage asynchronous traction motor. The stator employs a fully laminated rolled-up structure, while the rotor forms a squirrel cage through the welding of copper conductors to copper end rings. The end rings feature high-strength, high-quality alloy guard rings.



Product Technical Standards and Specifications

Rated torque: 10261 N•m

Rated efficiency: 91%

Rated frequency: 13.9 Hz

Maximum Speed: 2623 r/min.

Maximum Speed at Constant Power: 2514 r/min.

Insulation Class: 200

Stator Winding Connection: Y

Weight: 2900 kg

Cooling Air Flow: 1.2 m³/s

Duty Cycle: S1

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YJ117A Synchronous Main and Auxiliary Generator

Product Overview

The YJ117A main and auxiliary generator set is designed for the 6000-horsepower Harmony diesel locomotive and represents a motor technology introduced by our company.

The motor features an integrated main and auxiliary generator structure, comprising a main generator and an auxiliary generator. Mechanically connected but electrically independent, they are housed within a single generator body and coaxially aligned. The auxiliary generator is positioned near the diesel engine end. The main generator is integrated with a rectifier.

After rectification, it supplies DC power to the subsequent traction motors. The auxiliary generator outputs three sets of AC power:

- Main output (1-2-3) powers the locomotive's AC auxiliary drive system components—cooling fan motor, air compressor motor, and traction fan motor;
- Auxiliary output (4-5-6) provides auxiliary power for battery charging, lighting, and other auxiliary applications; while the intermediate tap output (7-8-9) supplies the main generator's excitation winding.

The motor's primary insulation employs a silicone rubber insulation system, offering excellent integrity, high-voltage resistance, high-temperature resistance, aging resistance, corrosion resistance, and high reliability.

The motor features high online maintainability, allowing components such as slip rings, brushes, brush holders, rectifiers, and bearings to be replaced while mounted on the locomotive.



Product Technical Standards and Specifications

Rated Power of Generator: 4480 kW

Rated Voltage of Generator: 2100 V

Rated Current of Generator: 1296 A

Rated Speed of Generator: 1000 r/min

Rated frequency of main generator: 93.3 Hz

Excitation current of main generator: 135 A

Rated power of auxiliary generator: 270/31.5/20 kW

Rated voltage of auxiliary generator: 444/222/53 V

Rated speed of auxiliary generator: 1000/1000/325 r/min

Auxiliary Generator Rated Current: 500/80/271 A

Auxiliary Generator Excitation Current: ≤ 70 A

Auxiliary Generator Rated Frequency:

133.3/133.3/43.3 Hz

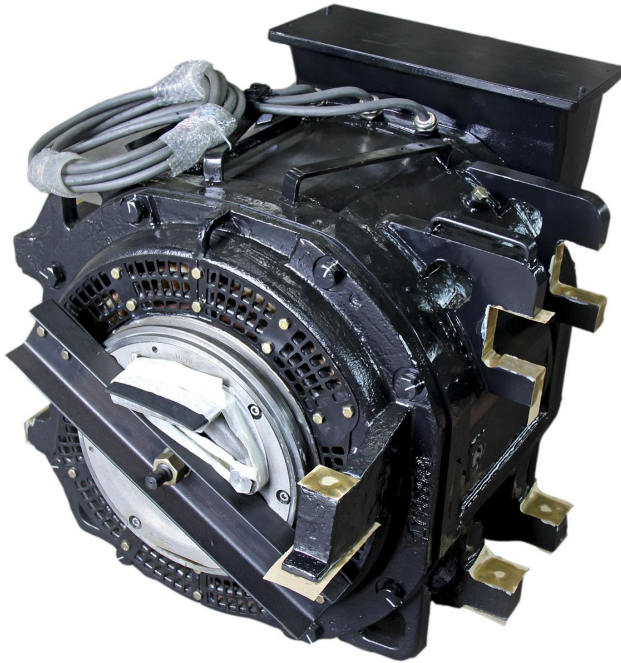
Rated Efficiency: $\geq 96\%$

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YJ157A AC Traction Motor

Product Overview

This traction motor is used in India's mainline 4500HP diesel freight locomotives.



Product Technical Standards and Specifications

Rated Power: 425 kW
Maximum Power: 450 kW
Rated Voltage: 1520 V
Maximum Voltage: 2028 V
Rated Current: 200 A
Maximum Current: 280 A
Rated Speed: 600 r/min
Maximum Speed: 3220 r/min
Rated Frequency: 20.5 Hz
Maximum Frequency: 109 Hz
Rated Torque: 6750 N•m
Maximum Torque: 9500 N•m
Rated DC Voltage: 2210 V
Maximum DC Voltage: 2600 V
Insulation Class: 200
Number of Poles: 4
Cooling Air Flow: 1 m³/s
Weight: ≤2125 kg

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YJ170A Traction Motor

Product Overview

This traction motor is designed for the HXD2C locomotive's electronic transmission system manufactured by CRRC. This high-power AC transmission system employs AC-DC-AC conversion technology to control the locomotive's traction and braking characteristics. It meets the performance requirements for domestic high-power AC transmission electric locomotives, delivering exceptional operational performance and significant energy savings.

The CRRC HXD2C locomotive electric transmission system primarily comprises the traction system, auxiliary systems, and the microcomputer network control system (TCMS).



Product Technical Standards and Specifications

Rated Power: 1250 kW

Rated Voltage: 2150 V

Rated Current: 380 A

Rated Speed: 1499 r/min

Rated Frequency: 50.6 Hz

Mounting Method: Roller-type structure



Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.

YJ177A AC Main Generator Motor

Product Overview

The YJ177A brushless synchronous generator is designed for the AC electric drive system of 240-ton mining dump trucks. The motor functions as a main-auxiliary synchronous generator. The generator employs a common core design, with the main and auxiliary windings being two sets of mutually independent windings sharing the same slots. The main winding utilizes a double-star connection with a 30-degree electrical angle shift. The output from the main winding, after rectification and inversion, supplies power to the AC drive system. The output from the auxiliary winding, after rectification and inversion, supplies power to the main fan and the brake unit fan.



Product Technical Standards and Specifications

Rated Power:

Main Generator 1646 kW,
Auxiliary Generator 171 kW

Rated Voltage:

Main Generator 1500V,
Auxiliary Generator 500V

Rated Current:

Main Generator $333.5 \times 2A$,
Auxiliary Generator 207A

Rated Speed: 1800 r/min

Rated Efficiency: 95%

Insulation Class: H

Rated Frequency: 120Hz

Power Factor: 0.95

Weight: 3550 kg

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Manufacturing Co., Ltd.

YJ177B AC Traction Main Generator

Product Overview

The YJ177B brushless synchronous generator is designed for the AC electric drive system of 300-ton mining dump trucks. The motor functions as a main-auxiliary synchronous generator: The generator employs a common core design, with the main and auxiliary windings being two sets of mutually independent windings sharing the same slots. The main winding utilizes a double-star connection with a 30-degree electrical angle shift. The output from the main winding, after rectification and inversion, supplies power to the AC drive system. The output from the auxiliary winding, after rectification and inversion, supplies power to the main fan and the brake unit fan.



Product Technical Standards and Specifications

Rated Power:

Main Generator: 2380 kW

Auxiliary Generator: 171 kW

Rated Voltage:

Main Generator: 1500 V

Auxiliary Generator: 500 V

Rated Current:

Main Generator: 483×2 A

Auxiliary Generator: 207 A

Rated Speed: 1800 r/min

Rated Frequency: 120 Hz

Rated Efficiency: 95%

Power Factor: 0.95

Insulation Class: H

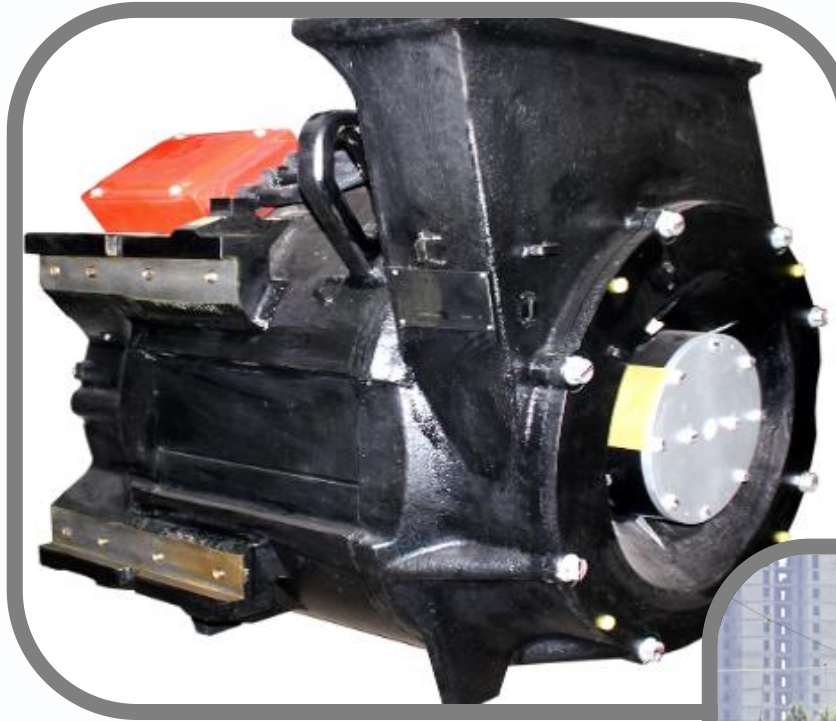
Weight: 4350 kg

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YJ245A Traction Motor

Product Overview

HXD2F (30-ton axle load AC traction freight electric locomotive). This motor features a slip-on installation structure with single-end diaphragm coupling output. The stator employs a fully laminated, frame-less design to reduce weight and enhance heat dissipation. The rotor utilizes a robust squirrel-cage structure with added guard rings to improve strength and reliability. The motor employs a single-bearing configuration with a non-axially positioned cylindrical roller bearing installed on the non-drive end. An oil filling port and oil level indicator plate are provided at the non-drive end cover.



Product Technical Standards and Specifications

Rated Power: 1226 kW

Rated Voltage: 1391 V

Rated Current: 590 A

Rated Speed: 1499 r/min

Rated Frequency: 42.5 Hz

Mounting Method: Roller-type structure

Weight: 2860 kg



Yongji Yuanyuan Electromechanical Equipment
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YJ277B/C

Product Overview

The 160 km/h power-concentrated EMU employs a main traction motor to drive the entire vehicle. The motor features a single-bearing structure with a fully laminated stator and a squirrel-cage rotor.



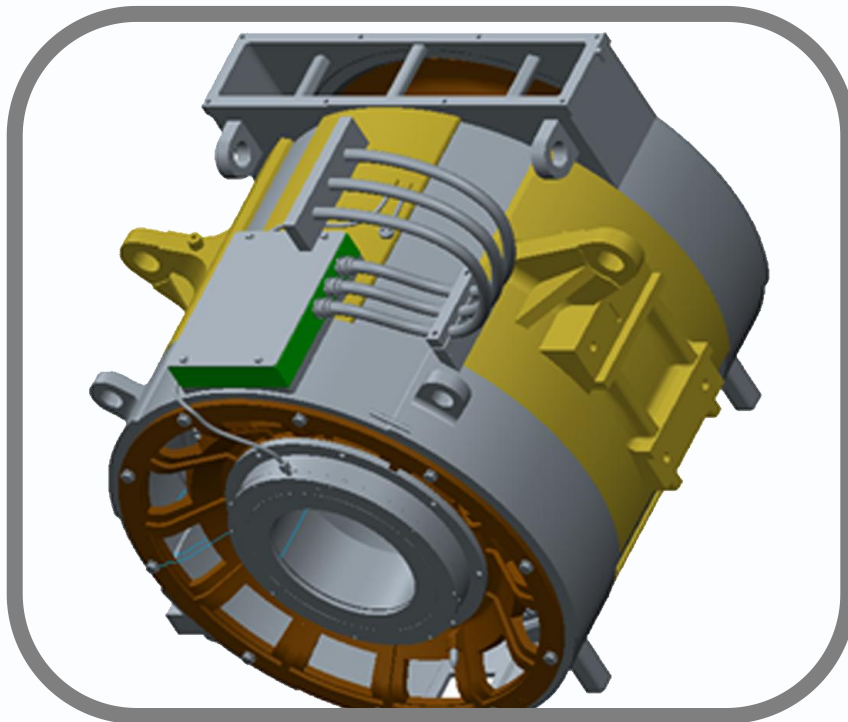
Product Technical Standards and Specifications

Rated Power: 1430 kW
Rated Voltage: 2300 V
Rated Current: 435 A
Rated Speed: 1663 r/min
Rated Frequency: 56 Hz
Rated Efficiency: 95%
Insulation Class: 200
Weight: 2180 kg

Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.

Product Overview

The 160 km/h high-power permanent magnet direct-drive electric locomotive replaces the asynchronous motor plus gearbox structure with a direct-drive permanent magnet traction motor. This enhances overall vehicle efficiency, reduces lifecycle costs, lowers noise levels, and minimizes maintenance requirements. The permanent magnet traction motor features a compact structure, small footprint, high torque output, high efficiency, and strong adaptability, achieving sustained operational efficiency exceeding 95.6%.



Product Technical Standards and Specifications

Rated Power: 1225 kW

Rated Voltage: 1660 V

Rated Current: 477 A

Rated Speed: 706 r/min

Rated Frequency: 41.2 Hz

Rated Torque: 33164 N·m

Maximum Torque: 42000 N·m

Weight: 3400 kg

Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.

YZ134A DC Traction Motor

Product Overview

The YZ134A traction motor is used in South African mainline electric locomotives and is fully interchangeable with the existing HS-1054-HR traction motor in South Africa.

This motor features a complex structure, high rotational speed, and operation in harsh environments. It is a four-pole motor with non-compensated windings, a welded frame, and rolling axle boxes.



Product Technical Standards and Specifications

Rated Voltage: 850V

Rated Current: 635A

Rated Speed: 930 r/min

Rated Efficiency: 92.6%

Excitation Method:

Compound Excitation (10% fixed tap of series excitation winding) $\beta_N=96.3\%$ $\beta_{min}=38\%$

Maximum Voltage: 935V

Maximum Current: 865A

Maximum Speed: 2655 r/min

Current Ripple Factor: $K_n \leq 30\%$

Ventilation Method: Forced Ventilation

Rated Airflow: 80 m³/min

Insulation Class: H

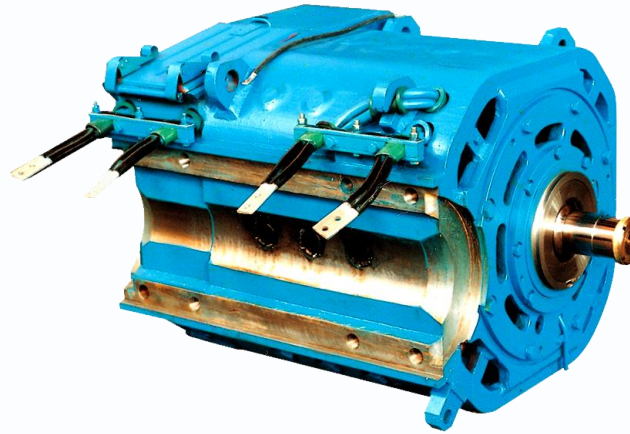
Motor Weight: 2880 kg

Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.

➤ ZD109J DC Traction Motor

Product Overview

DF7G diesel locomotive adopts a 4-pole design with flat-wound main poles, single brush holders, pressure springs, and a welded frame.



Product Technical Standards and Specifications

Rated Power: 530 kW

Rated Voltage: 670 V

Rated Current: 845 A

Rated Speed: 770 r/min

Insulation Class: H/H Class

Weight: 2820 kg

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➤ ZD110 DC Traction Motor

Product Overview

ZD110 is a DC traction motor designed for the 2400-horsepower, 6-axle, narrow-gauge electric transmission diesel locomotive exported to Myanmar. This motor features lightweight construction, compact dimensions, and high reliability. It employs high-temperature-resistant insulation materials and incorporates proven domestic and international expertise, fully leveraging advanced imported technologies.

Key New Technologies Applied:

1. Unique main pole shoe design enhances commutation performance;
2. Main and auxiliary pole coils employ a pressed structure combined with vacuum pressure impregnation, achieving stator integration;
3. Armature manufacturing utilizes wire pre-binding and vacuum pressure impregnation processes.

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Product Technical Standards and Specifications

Rated Power: 235 kW Rated Voltage: 400 V
Rated Current: 650 A Rated Speed: 705 r/min
Minimum Excitation Rate: 45% Maximum Voltage at
Constant Power: 710 V
Maximum Speed at Constant Power: 2960 r/min
Minimum Current at Constant Power: 366 A
Maximum Speed: 3100 r/min Cooling Air Flow: 80 m³/min



YJ288A Asynchronous Traction Motor

Product Overview

This motor is a three-phase squirrel-cage asynchronous traction motor powered by an inverter, designed for use with the eight-axle 200 km/h AC traction passenger electric locomotive manufactured by the same company. The traction motor has a rated power of 1430 kW and a short-time (30-minute) power rating of 1600 kW.



Product Technical Standards and Specifications

Rated Power: 1430 kW
Rated Voltage: 2575 V
Rated Current: 380 A
Rated Speed: 2008 r/min
Rated Torque: 6802 N·m
Rated Frequency: 67.5 Hz
Rated Efficiency: 95%
Power Factor: 0.89
Constant Power Speed Range: 2008 r/min to 3654 r/min (67.5 Hz to 122.7 Hz)
Insulation Class: 200
Number of Poles: 4
Stator Winding Connection: Y
Duty Cycle: S1
Cooling Method: Forced Air, Airflow 1.75 m³/s (Static Pressure 2800 Pa)
Weight: <2250 kg

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YZ156A1 DC Traction Motor

Product Overview

The YZ156A1 DC traction motor is designed for 130-ton electric transmission system dump trucks. It is a forced-ventilation, four-pole series-wound DC motor. The main pole core's pole shoes incorporate compensation windings to counteract the distortion of the main magnetic field caused by armature reaction.



Product Technical Standards and Specifications

Rated Power: 590 kW
Rated Voltage: 830 V
Rated Current: 760 A
Rated Speed: 900 r/min
Rated Efficiency: 93.6%
Maximum Speed: 2500 r/min
Duty Cycle: S1
Insulation Class: H, F
Excitation Method: Series Excitation
Motor Mass: 3300 kg

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YJ151A1 Harmonic Excitation Synchronous Generator

Product Overview

The YJ151A1 harmonic excitation synchronous generator is paired with a 130-ton electric drive system dump truck. The output from the windings is rectified to supply power to the drive system. The stator windings feature a double-star configuration with a 30-degree electrical phase shift output. The generator employs harmonic excitation, with the stator core incorporating both main windings and harmonic windings.



Product Technical Standards and Specifications

Rated Capacity: 800/1000 kW

Rated Voltage: 490/700 V

Rated Current: 2X565/2X350A

Rated Power Factor: 0.95

Rated Speed: 1900-2100 r/min

Rated Frequency: 126.7 Hz

Rated Efficiency: 95%

Insulation Class: H, F

Weight: 2905 kg

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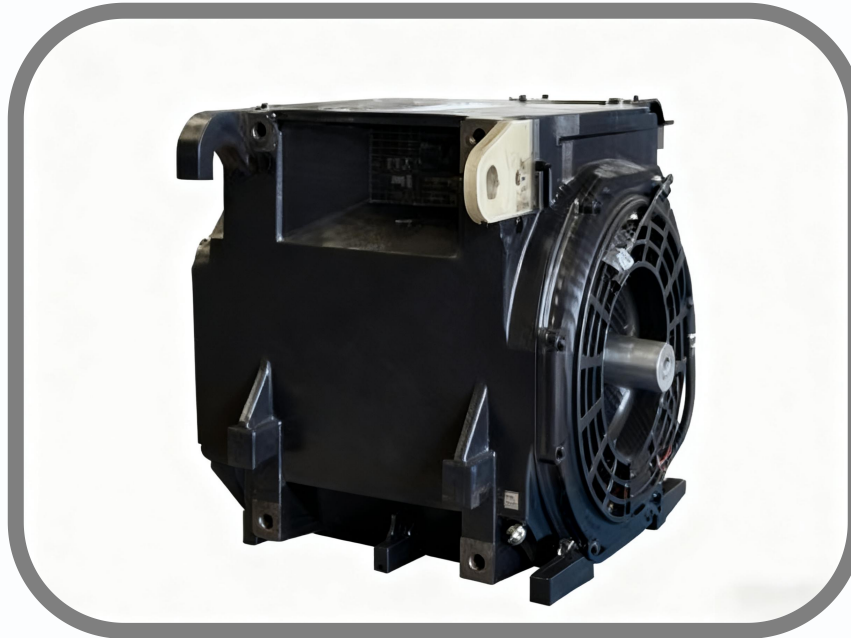
YJ105A Asynchronous Traction Motor

Product Overview

The YJ105A traction motor is assigned to the CRH3C EMU.

This motor features a robust structure, optimized weight, low noise emissions, high efficiency, and a compact design, representing the highest standard for asynchronous traction motors in international high-speed EMUs.

The motor employs forced cooling via an open-circuit forced ventilation system connected by flexible bellows. Equipped with temperature monitoring elements and speed monitoring elements, the motor must be operated using a monitoring system to ensure it does not exceed maximum speed, voltage, and current values. This prevents motor overheating and ensures operational safety.



Product Technical Standards and Specifications

Rated Power: 560 kW

Rated Voltage: 2750 V

Rated Current: 135 A

Rated Frequency: 138 Hz

Rated Speed: 4100 r/min

Maximum Speed: 5891 r/min

Power Factor: 0.87

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Manufacturing Co., Ltd.

Product Overview

The YJ257A permanent magnet synchronous generator is designed for the diesel power package generator system at Dalian Institute, ultimately integrated into Changchun Railway Vehicles' hybrid electric multiple units. This generator features high power output, compact size, light weight, and high efficiency.

Key New Technologies Applied:

1. Stator employs a skewed slot structure
2. Frame features a cast dual-row spiral copper tube water-cooling structure for the first time
3. Main insulation utilizes Class 200 insulation materials
4. Rotor adopts an internal magnetic circuit structure, with high-temperature silicone rubber potting filling the gaps on both sides of the magnets.



Product Technical Standards and Specifications

Rated Power: 345 kW
Rated Voltage: AC 1160 V
Rated Current: AC 191 A
Rated Speed: 2000 r/min
Maximum Speed: 2000 r/min
Number of Poles: 6
Rated Power Factor: 0.9
Insulation Class: 200
Temperature Rise Class: H
Protection Rating: IP65
Duty Cycle: S1
Cooling Method: Water-cooled

Product Overview

Traction Motor for Changchun Railway Vehicles KDZ6
EMU



Product Technical Standards and Specifications

Rated Power: 650 kW
Rated Voltage: 2800 V
Rated Current: 158 A
Rated Speed: 4174 r/min
Rated Frequency: 140 Hz
Maximum Speed: 2000 r/min
Maximum Speed at Constant Power:
5508 r/min (Full Wear 350 km/h)
5810 r/min (Half-wear 385 km/h)
Rated Torque: 1487 N•m
Insulation Class: 200
Power Factor: 0.87
Rated Efficiency: $\geq 94\%$
Weight: 680 kg
Mounting Method: Fully suspended frame-mounted

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YJ87A Asynchronous Traction Motor

Product Overview

The YJ87A asynchronous motor is a traction motor designed for the CRH5 high-speed trains manufactured by Changchun Railway Vehicles Co., Ltd. Each train set is equipped with 10 motors.

This motor is a three-phase, six-pole, open-type, forced ventilation, shell-less unit with elastic suspension mounting, equipped with a tachometer and temperature sensors. It features a simple structure, high power output, compact size, light weight, wide speed range, and reliable performance. It employs a corona-resistant, low-dielectric-loss insulation system rated at Class 200. The rotor is uninsulated, utilizing insulated bearings with grease lubrication, and delivers excellent traction and braking characteristics.



Product Technical Standards and Specifications

Rated Power: 568 kW
Rated Voltage: 2089.3 V
Rated Current: 211.22 A
Rated Speed: 1177 r/min
Rated Frequency: 59.9 Hz
Maximum Speed: 3638 r/min
Rated Torque: 4608.7 N·m
Stator Connection: Y
Rated Efficiency: 93.5%
Power Factor: 0.795
Number of Phases: 3
Weight: 2660 kg

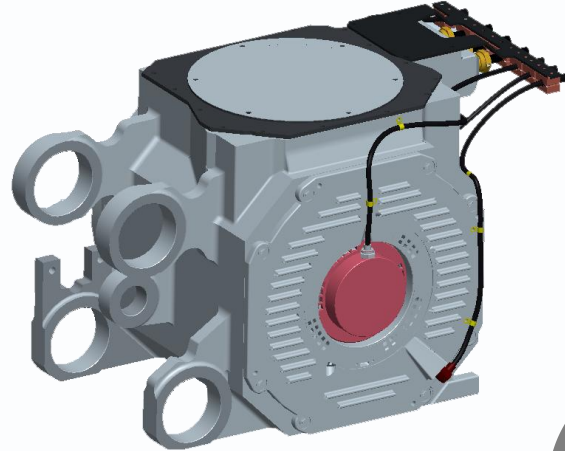
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YJ312A High-Speed Train Permanent Magnet Traction Motor

Product Overview

The YJ312A is an AC permanent magnet synchronous traction motor.

Permanent magnet synchronous motors are a type of AC motor offering advantages such as high efficiency, energy savings, and high power density. They are suitable for high-power, high-efficiency applications like high-speed trains. The YJ312A motor is deployed in the CR400BF-J-0001 high-speed integrated inspection train. At initial factory delivery, two power cars utilized YJ312A permanent magnet motors, while the remaining two power cars employed YJ268A asynchronous motors.



Product Technical Standards and Specifications

Traction Power: 800 kW

Rated Voltage: 2808 V

Rated Current: 178.5 A

Rated Frequency: 279.15 Hz

Weight: ≤ 750 kg

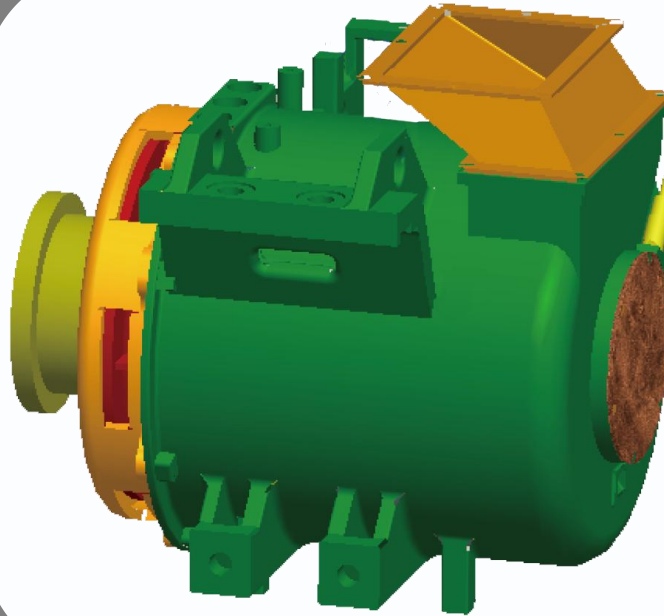


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YJ248A

Product Overview

The YJ248A is an AC asynchronous traction motor designed for low-speed rail vehicles. This motor is specifically tailored for the CJ5E-B EMU model, which operates at a service speed of 120 km/h and has a maximum test speed of 120 km/h. Its operating temperature range is -20°C to 40°C. The CJ5E-B employs a specific power configuration, featuring eight YJ248A traction motors for a total installed power of 1280 kW. This setup effectively meets the low-speed operational power requirements of the train model, suggesting it is likely deployed for scenarios such as suburban commuter services or low-speed regional transit.



Product Technical Standards and Specifications

Traction Power: 160 kW
Rated Voltage: 1287 V
Rated Current: 88 A
Rated Speed: 2520 r/min
Rated Frequency: 84 Hz
Maximum Speed: 4723 rpm
Insulation Class: 200
Cooling Method: Self-ventilated



Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.

Product Overview

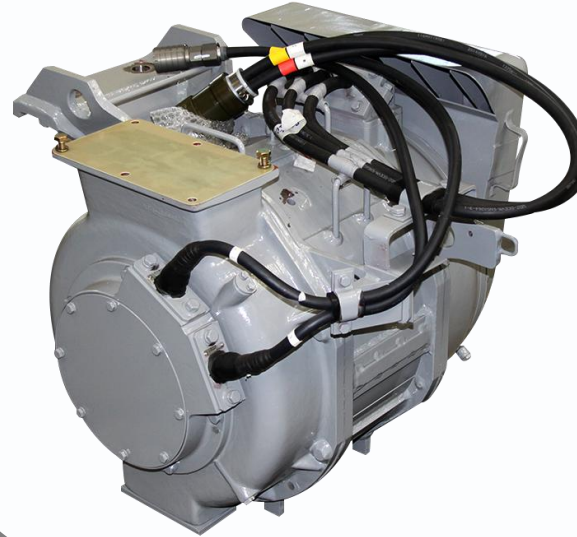
The YJ92B2 traction motor is an AC asynchronous traction motor used in CRH380A EMUs.

Basic Parameters: With a rated power of 365kW, the short-formation CRH380A EMU employs a 6M2T configuration. Each train is equipped with 8 YJ92B2 traction motors, delivering a total traction power of 8760kW. Through traction system "overclocking," single-motor power can reach 400kW, achieving a total train power of 9600kW.

Structural Features: The stator adopts a laminated, caseless welded structure, offering compact dimensions, lightweight construction, and superior heat dissipation. To facilitate system control and reduce uneven load distribution between wheelsets, it retains a high slip rate design philosophy. The conductor bars utilize high-resistance copper alloys and aluminum materials.

Suspension Method: A rigid frame suspension is employed, where the upper slot of the motor is rigidly fitted with the frame's motor suspension bracket. Bolts connect the upper and lower sections of the motor to the frame. This suspension method offers a simple structure and easy installation, though motor vibrations are directly transmitted to the frame.

Development and Application: The YJ92B2 evolved from the YJ92B series. Developed through technological innovation based on the assimilation of MB5120-A traction motor technology, it was first applied in later models of the CRH2A and the CRH2C Phase 2 380A era. It possesses fully independent intellectual property rights.



Product Technical Standards and Specifications

Output Power: 365 kW

Rated Voltage: 2000 V

Rated Current: 130 A

Rated Speed: 4142 r/min

Rated Frequency: 140 Hz

Insulation Class: 200

Weight: 480 kg



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YJ305A

Product Overview

The YJ305A traction motor is a motor used in the “Fuxing” high-speed trains.

Application Models: The YJ305A traction motor is used in CR300BF series high-speed trains, such as the SOKO trains operated by the Hungarian-Serbian Railway.

Performance Parameters: This motor features a compact structure, small size, low noise, high efficiency, wide constant power range, and strong overload capacity. Its rated power is 350kW, with a single motor capable of sustaining 400kW continuous operation. Maximum power output reaches 480kW. The motor's insulation strength ensures reliable long-term operation at altitudes up to 3000 meters.

Installation Configuration: Some CR300BF EMUs are equipped with 16 YJ305A traction motors, delivering an installed power of 5600kW and a wheel-end power of 5460kW.



Product Technical Standards and Specifications

Rated Power: 350 kW

Rated Voltage: 1443 V

Rated Current: 170 A

Maximum Speed: 5700 r/min

Rated Frequency: 140 Hz

Starting Torque: 2212 Nm

Efficiency: $\geq 94\%$

Power Factor: ≥ 0.86

Weight: ≤ 650 kg



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YJ315A

Product Overview

The YJ315A traction motor is the core traction component for the Fuxing CR300AF series EMUs.

Compatible Models: This motor is the standard traction motor for CR300AF EMUs. Some trains in this series utilize either the YQ350/YJ315A or YQ365-II/YJ315A motor configuration. Each train set typically incorporates 16 units of this motor model to ensure optimal traction performance.

Core Performance Parameters: With a rated power of 350kW per motor, the 16 motors collectively deliver a train installed power of 5600kW and a wheel-end power of 5460kW. This power configuration meets the operational requirements of the CR300AF as a 250km/h-class Fuxing bullet train, ensuring traction power output across varying track conditions while balancing operational efficiency and stability.



Product Technical Standards and Specifications

Rated Power: 350 kW

Rated Voltage: 1443 V

Rated Current: 170 A

Rated Speed: 4168 r/min

Rated Frequency: 140 Hz

Insulation Class: 200

Weight: 625 kg



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YJ302A

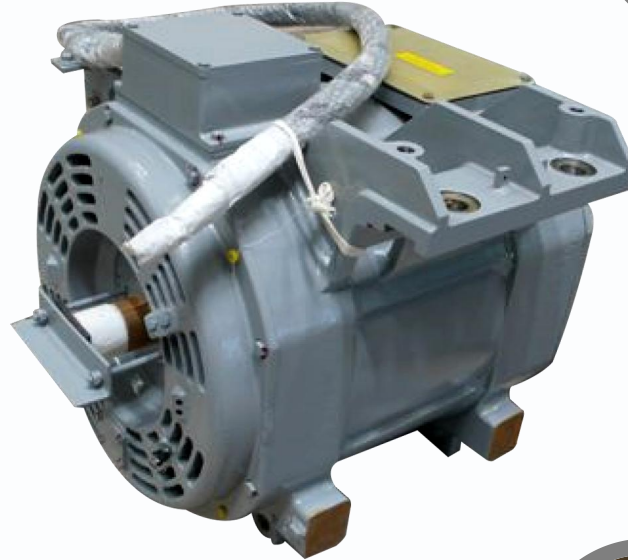
Product Overview

The YJ302A traction motor is an AC traction motor utilised in the Fuxing CR400AF series EMUs.

Applicable models: The YJ302A traction motor is primarily employed in the CR400AF series EMUs, encompassing multiple variants including the CR400AF, CR400AF-A, and CR400AF-B.

Performance Parameters: The motor has a rated power of 625kW. Each EMU set typically incorporates 16 YJ302A traction motors, delivering an installed power of 10,000kW and a wheel-end power of 9,750kW.

Motor Characteristics: The YJ302A traction motor is an inverter-powered variable-frequency speed-regulated asynchronous motor. It features high rotational speed and substantial torque, employing a rolling clamp bearing structure with a fully enclosed design and radiant heat dissipation. The cast steel frame outer casing incorporates cast ring ribs, while the stator core adopts a laminated structure. The rotor comprises a squirrel-cage design reinforced with pure copper end rings, welded conductors, and protective rings.



Product Technical Standards and Specifications

Rated power: 625 kW

Rated voltage: 2750 V

Rated current: 155 A

Rated speed: 4100 r/min

Rated frequency: 137.8 Hz

Maximum speed: 5810 r/min

Insulation class: Class 200

Mounting method: Bogie mounting

Weight: 740 kg

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YJ150A Traction Motor Urban Rail Transit

Product Overview

The YJ150A is a variable frequency speed-regulated asynchronous traction motor designed for urban rail transit and metro systems.

Powered by a voltage-source inverter, this Variable Voltage Variable Frequency (VVVF) asynchronous motor incorporates technology introduced from Hitachi. It features fully domestically produced insulation structures, stators, and final assembly, with a focus on compact and lightweight design. Representing our company's innovation in metro traction motors, it has been deployed on Shanghai World Expo Metro Lines 6 and 8, as well as Xi'an Metro Line 2.



Product Technical Standards and Specifications

Rated power: 180kW

Rated voltage: 1100V

Maximum speed: 4779 r/min

Insulation class: 200

Duty cycle: Continuous duty

Ventilation type: Self-ventilated

Weight: 555kg

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Oilfield motor

PART 02

Product Overview

The YZ08/YZ08A DC motor is a four-pole series-wound DC motor with forced ventilation, suitable for driving drilling rig winches, mud pumps, rotary tables, and similar equipment.

Motor Features:

1. Horizontal configuration with single shaft extension and dual bearing support structure.
2. Equipped with pressure differential switch and maintenance switch.
3. Incorporates space heater.



Product Technical Standards and Specifications

Rated Power	800 kW
Rated Voltage	750 V
Rated Current	1150 A
Rated Speed	970 r/min
Rated Torque	8033 N•m
Power Factor	92.70%
Insulation Class	H
Weight	3200 kg

YJ13G2/G5 AC Oilfield Drilling Motor

Product Overview

This motor is our company's flagship model for AC oilfield drilling motors exported to the Russian market, with product performance matching that of foreign counterparts.



Product Technical Standards and Specifications

Rated Power: 1200 kW

Rated Voltage: 690 V

Rated Current: 1143 A

Rated Speed: 1000 r/min

Rated Frequency: 50.5Hz

Rated Torque: 11460N•m

Maximum Speed at Constant Power: 1500r/min

Power Factor: 0.89

Rated Efficiency: 94.50%

Insulation Class: 200

Weight: 3500kg

Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.



YJ13A13 Enhanced Safety Type Variable Frequency Drive Asynchronous Motor

Product Overview

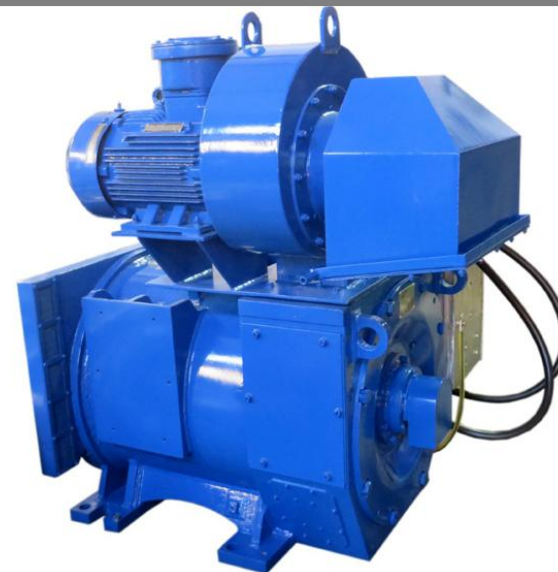
YJ13A13 Increased Safety Type Variable Frequency Drive Asynchronous Motor. Suitable for driving and controlling voltage-source type variable frequency drive systems, it can be used to drive drilling rig winches, mud pumps, rotary tables, etc., or serve as a drive motor for other variable frequency speed control devices. Motor Features:

1. Stator windings use molded windings, 6-pole motor.
2. Rotor employs copper bar cage construction.
3. Each phase winding equipped with two PT100 winding temperature sensors.
4. Motor fitted with space heater.
5. Suitable for marine environments.
6. Overall motor protection rating: IP44.
7. Fully explosion-proof motor with marking Ex d e II B T3 Gc, certificate number CJEx15.0028.

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Product Technical Standards and Specifications

Rated Power 800kW	Rated Voltage 690V
Rated Current 826A	Rated Speed 1000 r/min
Rated Frequency 50.5Hz	Rated Torque 7640 N•m
Maximum Speed at Constant Power 1750 r/min	
Power factor 0.85	Rated efficiency 95%
Insulation class 200	Weight 3150 kg



YJ131 AC Variable Frequency Drive Motor

Product Overview

Top drive-specific AC motor, designed for oilfield drilling top drive systems (the critical equipment driving drill string rotation during drilling operations), capable of stable operation in harsh environments such as marine, sub-zero, and desert conditions. It is one of 17 products within the four series of top drive motors.

Operational Scenario: Specifically utilised in top drive equipment, providing power output for drill string rotation and drilling operations. It serves as the core power unit for oilfield drilling, particularly in complex environmental drilling scenarios.

Environmental Adaptability: Possesses characteristics for withstanding harsh environments, capable of operating under extreme conditions including marine high humidity and salt spray, sub-zero temperatures, and desert dust storms.

Performance Advantages: Tailored to top drive operational requirements, it balances power, torque, and speed adaptability. Variable frequency control enables flexible adjustment to match operational parameters for different geological formations and drilling depths.

Product Technical Standards and Specifications

Rated power: 350 kW

Rated voltage: 600 V

Rated speed: 1200 r/min

Rated frequency: 60.6 Hz

Rated torque: 2785 N·m

Maximum speed: 2800 r/min



Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.



Wind turbine

PART 03

1.5MW air-to-air cooled doubly fed wind turbine generator

Product Technical Standards and Specifications

Product Overview

This motor is designed for 1.5MW variable-speed doubly-fed wind turbines, incorporating over a decade of proven technology validated by more than a thousand operational units, ensuring high reliability. Installed within the nacelle, the drive-end shaft connects to the gearbox via a coupling to receive mechanical power. The stator interfaces with the grid, while the rotor connects to the grid through a four-quadrant converter. It operates within a speed range of $\pm 36.5\%$ of synchronous speed, converting mechanical energy into electrical power.

Key technical features:

Utilises a proprietary bearing structure and insulation technology to effectively suppress bearing electro-erosion;

Windings employ H-class corona-resistant insulation with vacuum pressure impregnation, enabling resilience to rapid environmental changes;

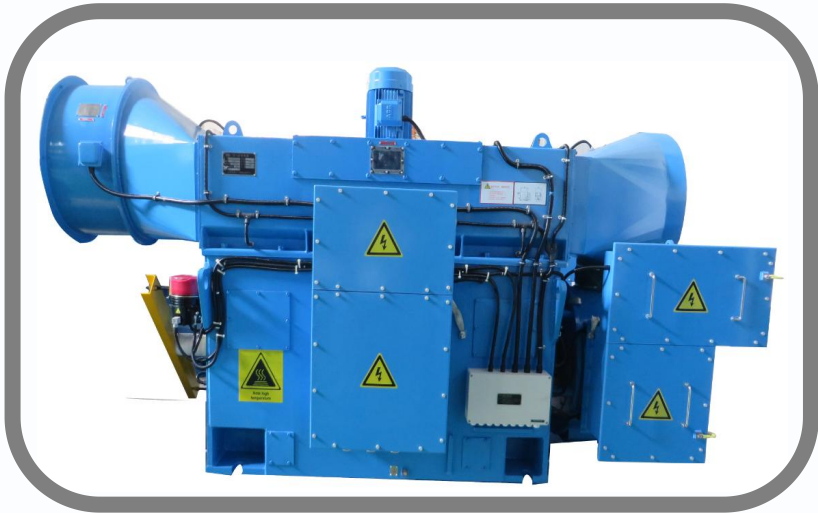
Incorporates high-speed dynamic balancing to reduce motor vibration and noise;

Standardised and modular design facilitates flexible configuration within different nacelles and simplifies maintenance;

Certified by China Classification Society.

Parameter	Value	Parameter	Value
Rated Power	1560kW	Rated Speed	1800r/min
Rated Frequency	50Hz	Center Height	500mm
Number of Poles	4	Rated Voltage (Stator/Rotor)	690V/420V
Rated Current (Stator/Rotor)	1090A/390A	Stator/Rotor Winding Connection	Δ/Y
Rated Efficiency	$\geq 97\%$	Power Factor	0.95ind-0.95cap
Rotor Open-Circuit Voltage	1990 $\pm$ 20V	Cooling Method	Air-Air Cooling
Insulation Class	H	Protection Class	IP54/IP23
Motor Weight	7200kg		

Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.



2.XMW Air-to-Air Cooled Double-Fed Asynchronous Wind Generator

Product Overview

2. The XMW series air-to-air cooled double-fed asynchronous wind generator features a design without top-drive fans or axial fans, delivering lower noise and vibration, reduced harmonic content, and enhanced maintainability. Based on a modular platform, it can be customized to meet specific user requirements, offering diverse motor configurations and services to maximize user benefits.

Key Technical Features:

The motor adopts a design without a top-mounted drive fan or internal axial fan. Based on a modular platform, it can be customized to meet user requirements, offering multiple motor configurations and services to maximize user benefits;

Integrated high-reliability rotor winding design, with the rotor winding and lead system fully welded and uniformly varnished;

Self-ventilated slip ring system chamber design, utilizing a self-aspirating airflow path to maintain carbon brush temperature below 85°C;

Low-resistance air ducts with specialized ventilation blades enhance cooling system efficiency;

Special materials achieve bearing insulation capacitance $<0.1\text{nF}$, improving high-frequency current interruption capability;

Forward design combined with modal simulation optimization and experimental validation ensures low temperature rise, low vibration, and low noise;

Widely applicable in diverse operational environments for onshore wind farms, including high-altitude plateaus, extreme cold, high temperatures, high humidity, sandstorms, and salt fog;

Certified by Jianheng.

Product Technical Standards and Specifications

Rated Power 2280–2600 kW

Rated Speed Range 1650–1820 r/min

Rated Frequency 50 Hz

Stator Rated Voltage 690 V

Number of Poles 4

Stator/Rotor Winding Connection Δ/Y

Center Height 500 mm

Rated Efficiency $\geq 96.5\%$

Insulation Class H

Power Factor 0.95 ind $\sim 1 \sim 0.95$ cap

Cooling Method IC616

Rotor Open-Circuit Voltage $2128\text{V} \pm 20\text{V}$

Motor Weight 7500kg

Protection Rating IP54/IP23 (slip ring compartment)



2.XMW Air-to-Air Cooled Double-Fed Asynchronous Wind Generator

Product Overview

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Stator Rated Voltage 690 V

Number of Poles 4

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Center Height 500 mm

Rated Efficiency $\geq 96.5\%$

Insulation Class H

Power Factor 0.95 ind $\sim 1 \sim 0.95$ cap

Cooling Method IC616

Rotor Open-Circuit Voltage $2128\text{V} \pm 20\text{V}$

Motor Weight 7500kg

Protection Rating IP54/IP23 (slip ring compartment)



1.5MW doubly-fed wind turbine generator

Product Overview

This motor is a 1.5MW doubly-fed wind generator designed for use with a 1.5MW variable-speed doubly-fed wind turbine generator system. It is suitable for inland wind farms, with an upgraded version available for low-wind-speed, high-altitude, and coastal wind farms. Its performance meets special requirements for low temperature rise, salt spray resistance, and low noise. The motor is installed within the nacelle. Its drive-end shaft connects to the gearbox via a coupling to receive mechanical power. The stator interfaces with the grid, while the rotor connects to the grid through a four-quadrant converter. It operates within a speed range of $\pm 36.7\%$ of synchronous speed, converting mechanical energy into electrical energy.

As a critical component of wind turbine generators, it primarily includes: welded stator frame, core winding assembly, insulated end caps, three-phase wound rotor, slip ring brush holder assembly and slip ring chamber, stator and rotor terminal boxes, sensor and auxiliary terminal box assemblies, lightning arresters, encoders, etc.

Product Technical Standards and Specifications

Rated Power 1560 kW
Rated Speed 1800 rpm
Rated Frequency 50 Hz
Center Height 500 mm
Number of Poles 4

Stator/Rotor Rated Voltage 690 V/420 V
Stator/Rotor Rated Current 1090 A/390 A
Stator/Rotor Winding Connection Δ/Y
Rated Efficiency $\geq 97\%$
Power Factor 0.95ind $\sim$ 1 $\sim$ 0.95cap
Rotor Open-Circuit Voltage 1990V $\pm$ 20V

Key Technical Features

- Utilizes proprietary bearing structure and insulation technology to effectively suppress bearing electrocorrosion.
- Windings employ H-class corona-resistant insulation with vacuum pressure impregnation, ensuring resilience against rapid environmental changes.
- Incorporates over a decade of proven technology validated by thousands of operational units, delivering customized solutions tailored to user needs.
- Standardized and modular design philosophy provides versatile external interfaces, enabling flexible configuration for diverse nacelle layouts with reliable operation and easy maintenance.
- Certified by Jianheng and classification societies.
- The upgraded motor is suitable for low-wind-speed, high-altitude, and coastal wind farms, meeting special performance requirements such as low temperature rise, salt spray resistance, and low noise.



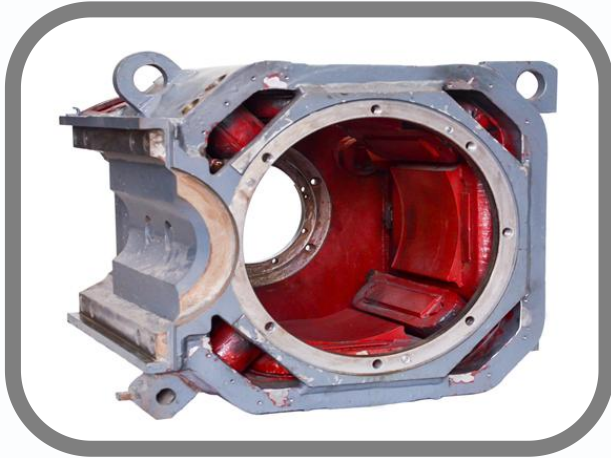
Cooling Method Air-to-Air Cooling or Water Jacket Cooling
Insulation Class H
Protection Rating IP54/IP23
Motor Weight 7200kg



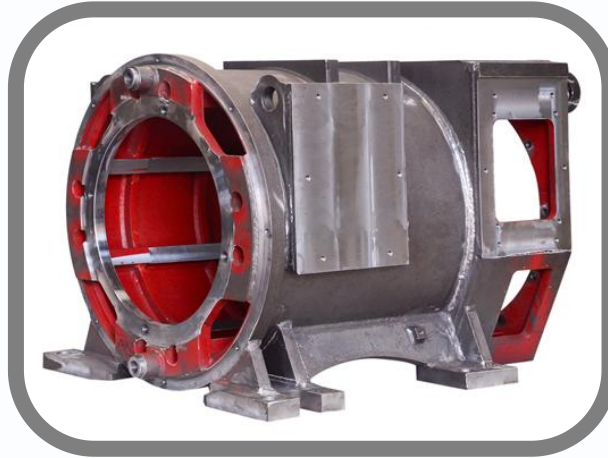
Motor Parts OEM ODM

PART 04

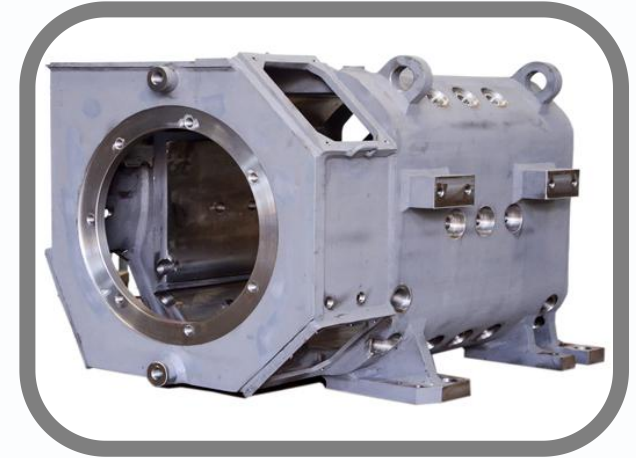
➤ Motor Base



Motor Base



Mining Motor Base

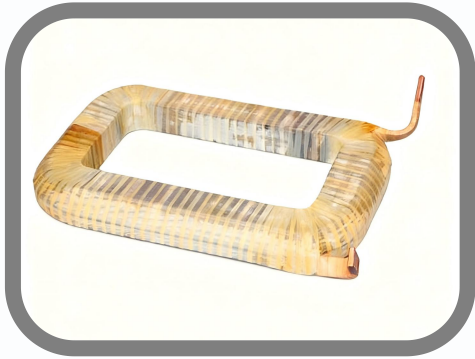


Oilfield Motor Base

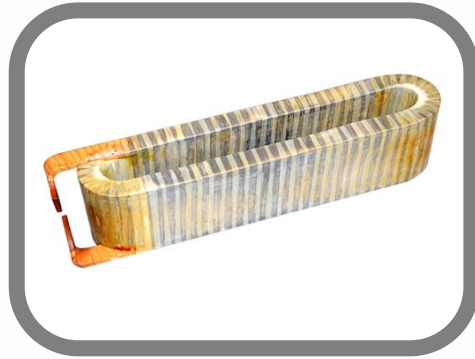
The motor base, serving as the core load-bearing and positioning component for motor operation, is specifically designed for various AC/DC motors and variable-frequency motors. Featuring a high-strength structure, precise positioning performance, and full-scenario adaptability, it provides a solid foundation for stable motor operation. Widely applied in industrial manufacturing, petrochemicals, rail transit, mining, and metallurgy, it accommodates motor equipment ranging from 0.75 kW to 2000 kW.

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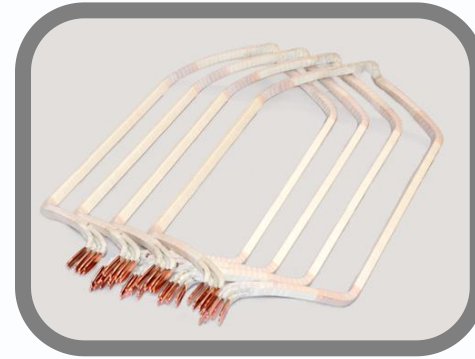
➤ Coil



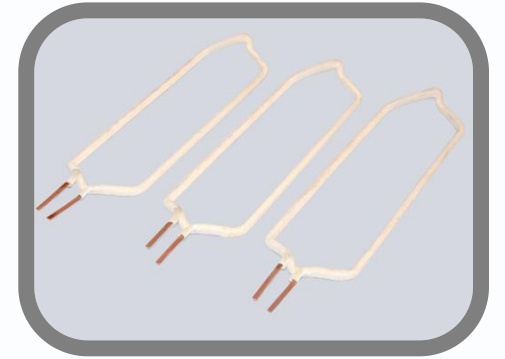
Main pole coil



Anchor coil



Armature coil

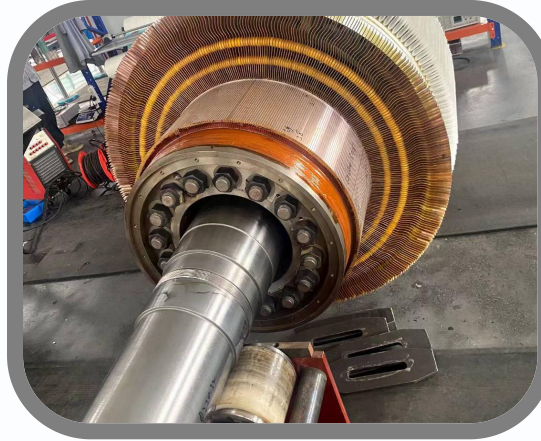


Stator coil

- **Main Pole Coil:** The core component of the main magnetic field in DC motors, wound with copper wire and insulated. When energized with direct current, it generates the main magnetic flux, determining the motor's fundamental output torque.
- **Auxiliary Pole Coil:** Also known as the commutating pole coil, it works in conjunction with the main pole coil to counteract armature reaction, reduce commutation sparking, and enhance motor operational stability.
- **Armature Coil:** The core component of the DC motor's rotor, embedded within the armature core slots. It converts electrical energy into mechanical energy through electromagnetic induction, directly influencing the motor's output power.
- **Stator Coil:** Windings on the stator core of an AC motor. When energized with alternating current, they generate a rotating magnetic field that drives the rotor. Based on winding configuration, they can be categorized as concentrated or distributed, accommodating different speed requirements.

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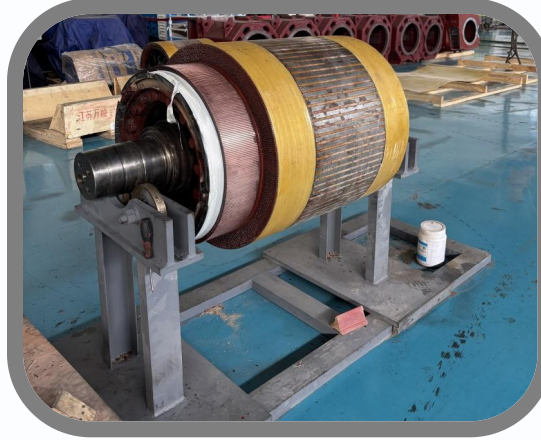
➤ Commutator



The commutator is the core commutation component of a DC motor, typically a copper cylindrical structure with commutator segments embedded in its surface and separated by insulating plates. These segments connect to the ends of the armature windings. Its primary function is to convert the alternating current (AC) generated in the armature windings into direct current (DC) for the external circuit. Working in conjunction with carbon brushes to transmit current, it minimizes sparking through precise commutation, ensuring stable motor operation. Adaptable to varying speeds and load conditions, it is widely used in various DC motors and certain AC commutator motors.

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➤ Rotor



The rotor is the rotating core component of an electric motor, primarily consisting of the armature core, armature windings, rotor shaft, and commutator (in DC motors). It achieves energy conversion through electromagnetic induction interacting with the stator magnetic field. Its core function is to convert electrical energy into mechanical energy, driving external equipment. Rotational speed and torque directly determine the motor's output performance. Constructed from high-strength laminated silicon steel sheets with precision dynamic balancing, it minimizes operational vibration and noise. Designed for heavy-duty, high-speed, and harsh environmental conditions, it is widely used in various AC/DC motors and variable-frequency drives.

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➤ Stator and stator windings



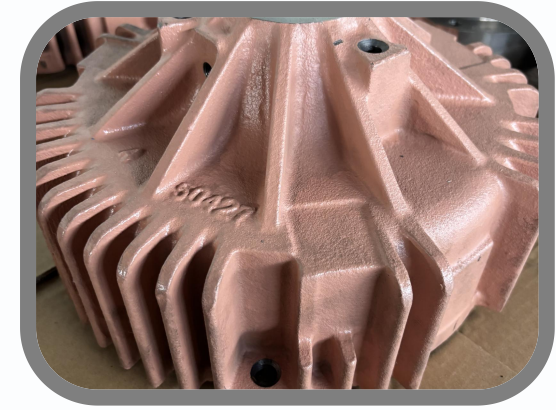
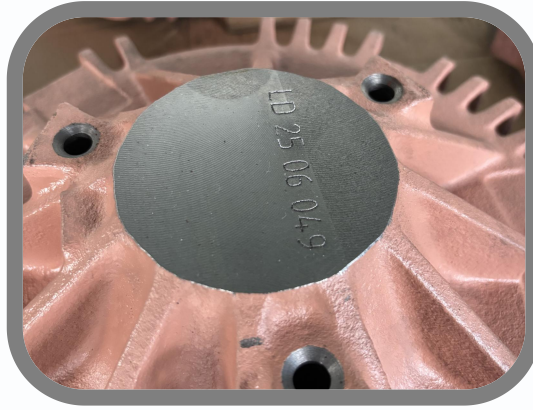
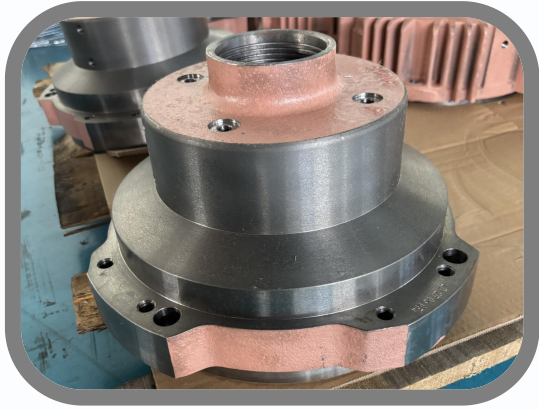
Stator

The stator is the fixed core component of an electric motor, primarily consisting of the stator core, stator windings, and frame. It serves as the fundamental carrier for generating the motor's magnetic field and facilitating energy conversion. Its core function is to generate a stable magnetic field (in DC motors) or a rotating magnetic field (in AC motors) by passing current through the stator windings. This field interacts with the rotor to drive its rotation while providing structural support and protection for the motor's internal components. Constructed from laminated high-permeability silicon steel sheets with enclosed or semi-enclosed designs, it offers excellent heat dissipation and electromagnetic interference resistance, accommodating diverse power output requirements across motor types.

Stator Windings

The stator windings constitute the core electromagnetic component of the stator. Wound from high-strength enameled copper or aluminum wire, they are categorized as concentrated or distributed based on winding configuration. Their primary function is to generate a magnetic field when energized, enabling energy transfer with the rotor through electromagnetic induction. The number of turns, wire gauge, and winding technique directly influence the motor's power, speed, and efficiency. After insulation treatment, the coils are embedded into the slots of the stator core. They exhibit high-temperature resistance, wear resistance, and electrical breakdown resistance, ensuring stable operation under varying voltages and load conditions. As the key components for energy conversion in the motor, they play a crucial role in its performance.

➤ Motor End Cover



Motor end caps serve as critical protective and structural components, mounted at both ends of the motor frame. Primarily fabricated from high-strength materials such as cast iron and aluminum alloy, their core functions include securing the rotor shaft bearings, sealing the internal motor cavity, and providing precise support for the rotor to ensure stable high-speed rotation. With rust-proof and corrosion-resistant surface treatments combined with sealed structural designs, they effectively prevent dust, water, and foreign object ingress, making them suitable for complex and harsh environments such as outdoor settings, mines, and oil fields. Some end covers integrate heat sinks or inspection windows, serving dual functions of auxiliary heat dissipation and operational monitoring. They are a critical safeguard for the overall protection and structural stability of the motor.

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➤ Carbon brush



Carbon brushes serve as the core conductive and commutation components of electric motors, also known as brushes. Primarily composed of conductive and wear-resistant materials such as graphite and carbon graphite, they are mounted on the motor brush holder and maintain sliding contact with the commutator (in DC motors) or slip rings (in AC motors). Their primary function is to transmit external current to the rotating rotor windings while coordinating with the commutator to reverse the current direction, ensuring continuous and stable motor operation. They exhibit excellent electrical conductivity, wear resistance, and lubricity. After impregnation treatment, their high-temperature resistance and arc-striking capability are enhanced, reducing commutation sparks and wear. Adaptable to varying speeds, loads, and harsh environmental conditions, they are indispensable, easily worn components in all types of rotating motors. Regular inspection and replacement are essential to maintain motor performance.

Yongji Yuanyuan Electromechanical Equipment
Manufacturing Co., Ltd.