

湘电集团有限公司

XIANGTAN ELECTRIC MANUFACTURING GROUP CORPORATION LTD.



战略目标： 领军中国电工装备制造业

Strategic Goal: Leading Chinese Electrical Equipment Industry

产业定位： 重大装备解决方案服务商

Industrial Positioning: Service Provider for Heavy Equipment Industry

XEMC
机电服务专家

PART

1

公司简介

Introduction of XEMC

PART

2

主导产品

Leading products



PART

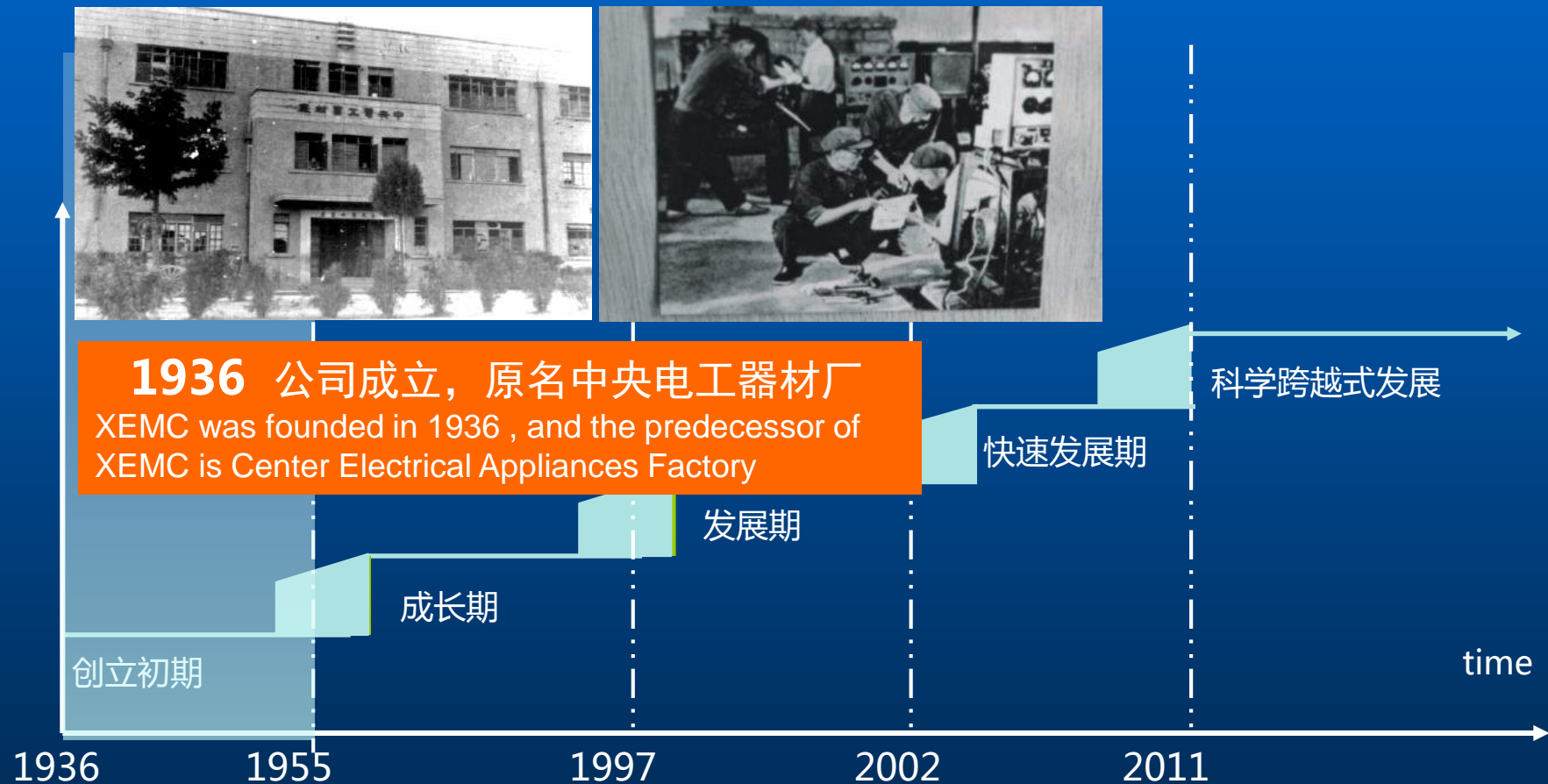
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Introduction of XEMC

公司简介

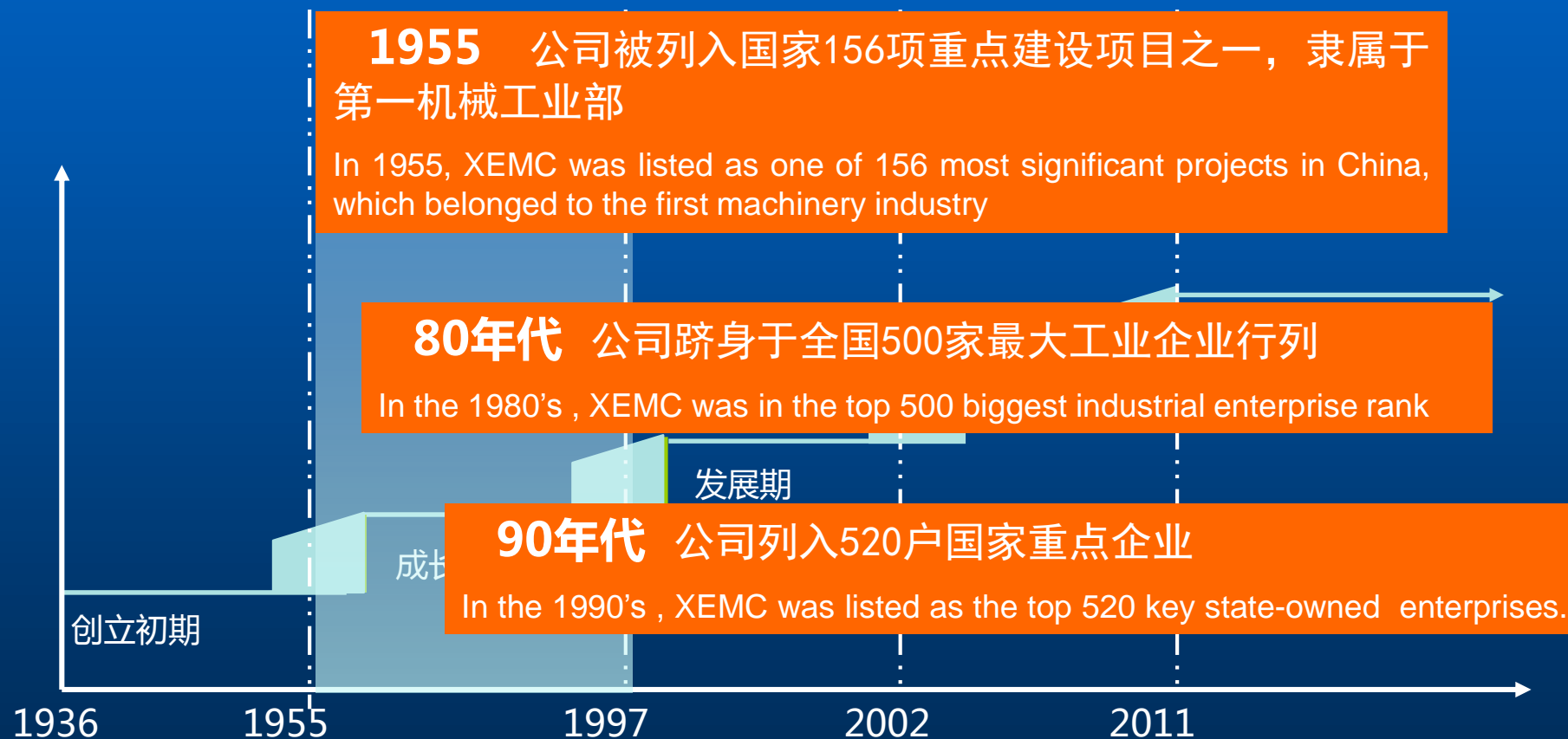
创立初期：1936-1955

The start-up phase



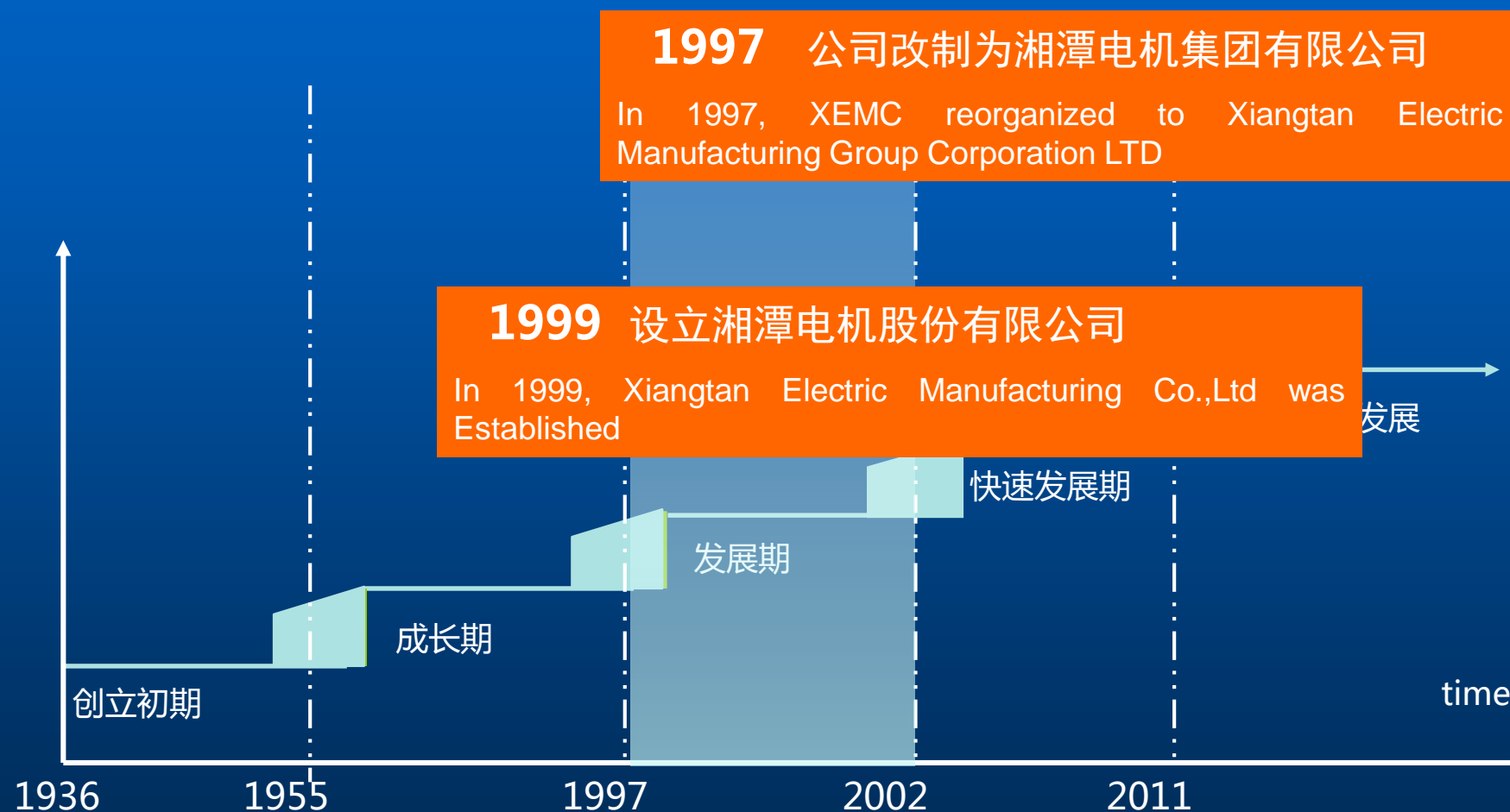
成长期：1955-1997

The growth phase



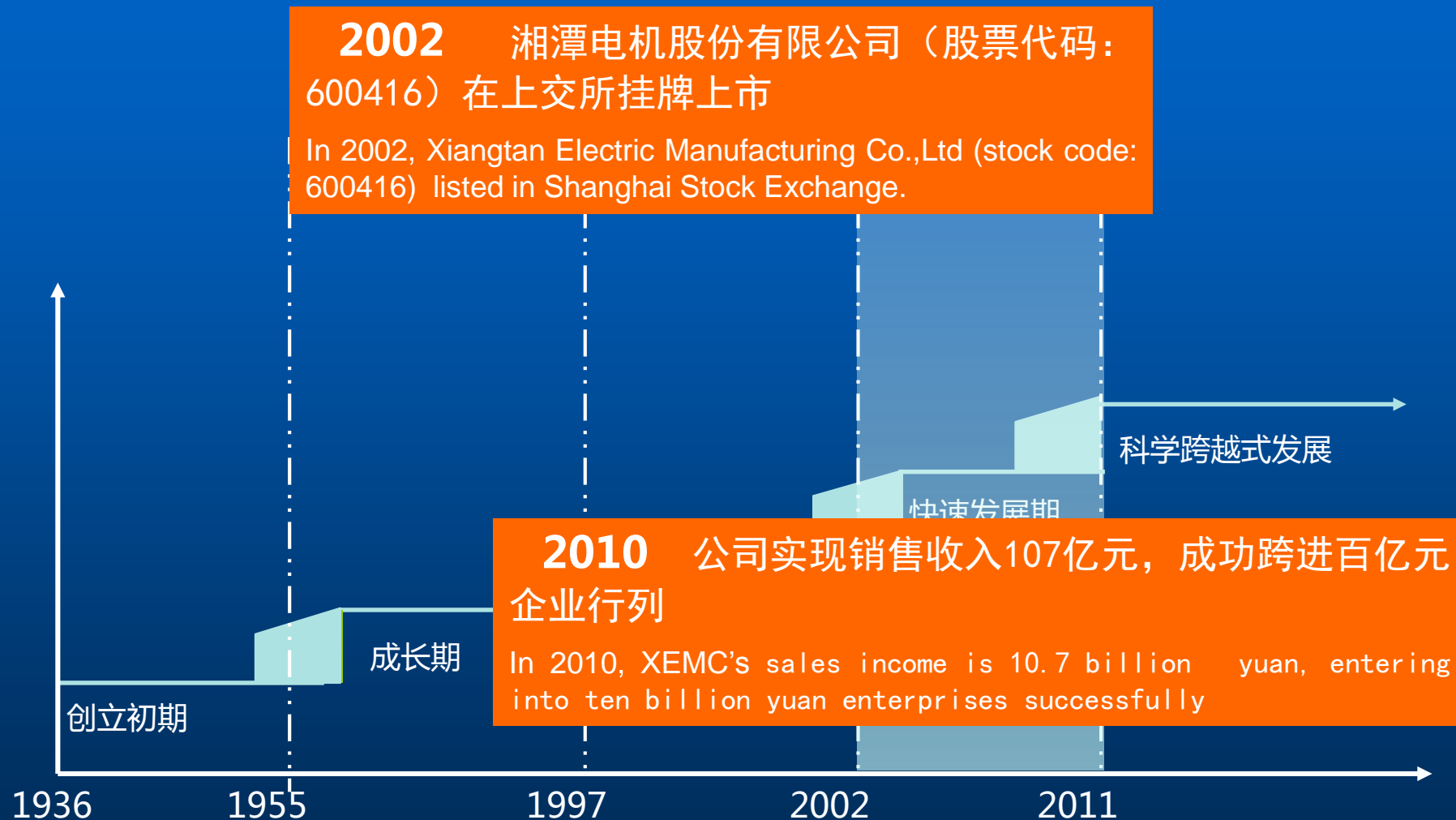
发展期：1997-2002

The development phase



快速发展期：2002以后

The rapid development phase



产品研发/ Develop new products

研发新产品1100多项，其中100多项填补了国内空白，主要为我国电力、能源、水泥建材、矿山、交通、化工、轻工、水利、冶金、风能等行业提供重大国产化装备

XEMC have successively developed new products, including 1100, among which, more than 100 items created China's first. XEMC mainly provides major localization equipments to electric power, energy, mining, transportation, petrochemical, light industry, water conservancy, metallurgy etc



- 1951年，成功研制出我国第一台**高压电机**

In 1951, the first Hv motor in China has been succeeded and independently developed in XEMC.



- 1958年，成功研制出我国第一辆**铁路干线电力机车**

In 1958, the first mainline railway locomotive in China has been succeeded and independently developed in XEMC.

产品研发/ Develop new products



- 1958年，成功研制出我国第一套船用推进电机、电气控制推进系统

In 1958, the first Ship submarine motor, electrical control propulsion system in China has been succeeded and independently developed in XEMC.



- 1959年，成功研制出我国第一辆大型矿山运输设备150吨电力机车

In 1959, the first large-scale mine high power tractor electric locomotive in China has been succeeded and independently developed in XEMC..



- 1964年，成功研制出我国第一套地铁车辆电气成套设备，用于北京地铁

In 1964, the first metro vehicle electrical complete equipment has been succeeded and independently developed in XEMC.

产品研发/ Develop new products



- 1974年，成功研制出我国第一辆**108吨电动轮自卸车**

In 1974, the first 108t electric drive dump truck in China has been succeeded and independently developed in XEMC.



- 1982年，成功研制出我国第一台套**大型立式斜流泵**

In 1982, it succeeded in independently developing the first sets large vertical oblique flow pump in China.



- 1984年，成功研制出我国第一台**300兆瓦机组循泵、凝泵配套电机**（国内发电厂30万机组）

In 1984, it succeeded in independently developing the first 300 mw units follow pump, of condensate pump motor in China.

Historical contributions | 历史贡献

产品研发/ Develop new products



- 1985年，成功研制出我国第一辆**154吨电动轮自卸车**

In 1985, it succeeded in independently developing the first 154t electric drive dump truck in China.



- 1989年，成功研制出成功我国第一台**600兆瓦机组循泵、凝泵配套电机**

In 1989, the first 600 mw units follow pump, of condensate pump motor in China has been succeeded and independently developed in XEMC.



- 1991年，成功研制出我国第一辆**城市轻轨车**

In 1991, the first city light rail vehicle in China has been succeeded and independently developed in XEMC.

产品研发/ Develop new products



- 2004年，成功研制出**混合动力电动车**

In 2004, hybrid power electric vehicle in China has been succeeded and independently developed in XEMC.



- 2005年，成功研制出我国**第三代70%低地板交流变频传动城市轻轨车**

In 2005, the third generation AC variable frequency drive 70% low-Floor urban light rail vehicle in China has been succeeded and independently developed in XEMC.



- 2005年，成功研制出我国第一台**1000兆瓦机组循环泵配套用全套辅机电动机**

In 2005, the first 1,000 mw unit with complete auxiliary circulation pump motor, supporting in China has been succeeded and independently developed in XEMC.

产品研发/ Develop new products



- 2006年，成功研制出我国第一台灯泡体贯流泵配套用**3.6兆瓦永磁电机**（南水北调泵站设备）

In 2006, the first 3.6MW permanent magnet electric machine matched with the bulb body type through-flow pump in China has been succeeded and independently developed in XEMC(used for pump station of south-north water project).



- 2007年，成功研制出我国第一台**2兆瓦直驱式永磁同步风力发电机**

In 2007, the first 2MW direct drive type permanent magnet synchronous wind power generator in China has been succeeded and independently developed in XEMC.



- 2008年，成功研制出我国第一辆**220吨交流牵引传动电动轮自卸车**

In 2008, the first 220t AC traction drive dump truck in China has been succeeded and independently developed in XEMC.

产品研发/ Develop new products



- 2010年10月，国内第一台**5MW永磁直驱海上风力发电机组**在湘电成功下线

In 2010, the first permanent magnet 5MW domestic direct driving offshore wind generator set in XEMC successfully rolled off the production line.



- 2011年5月，公司研制出我国第一辆**300吨大型电动轮自卸车**

In 2011, XEMC developed the first 300 t Electric Wheel Dump Truck in China

输送干部和技术人才 / Provide qualified talents

- 新中国成立后，公司先后输送4600余名工程技术人员、管理人员、生产技术人员，支援国家建设；
- 兰州电机厂、东方电机厂、上海电机厂的第一任总工程师由公司调出；
- 北京地铁、上海地铁、广州地铁第一任总工程师均从湘电调出；
- 输送了一批干部，包括原中共中央纪律检查委员会副书记侯宗宾、原国家经委副主任赵荫华、全国人大常委王宋大、原湖南省副省长郑培民、原湖南省政协副主席范多富等 …… ……

XEMC provided more than 4600 engineering staff, managers, production technology workers, to support the national construction.

The first chief Engineer of Lanzhou motor company, Dongfang Electrical Machinery Plant , Shanghai Xinhua Electric machine Co. , TLD was from XEMC

The first chief Engineer of Beijing subway company, Shanghai subway company , Guangzhou subway company was from XEMC

Many governmental leaders are from XEMC, which include deputy secretary of Central Commission for discipline inspection of the Communist Party of China Hou Zongbin, Former deputy director of State Economic and Trade Commission, Zhao Yinhu, National People's Congress Standing Committee Wang Songda, former Vice-governor in Hunan province Zheng Peimin, former vice chairman of the CPPCC Hunan Provincial Committee Fan Duofu.





- 公司的发展一直得到党中央、国务院和各级各部门的关心与支持。习近平、江泽民、温家宝、贾庆林、李长春、贺国强等党和国家领导人先后视察公司，对公司取得的成绩和所作的贡献给予充分肯定

The consideration and support from the CPC Central Committee, the State Council and every department of different levels is always along with the development of XEMC. The leaders of CPC or the State has inspected XEMC early or late, such as Xi Jinping, Jiang Zemin, Wen Jiabao, Jia Qinglin, Li Changchun, He Guoqiang etc, they have fully affirmed the company's achievements and contributions.



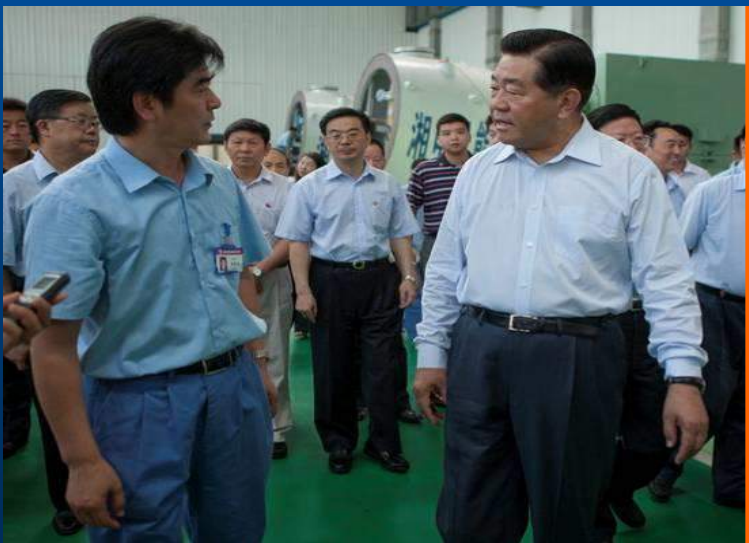


湘潭电机是我国电工产品的摇篮

"XEMC is the cradle of China's electric machinery products"

——江泽民

Former president of the PRC Jiang Zemin



湘电是我国电工装备制造业的长子

XEMC is an outstanding industrial flagship of Electrical equipment manufacturing industry in China.

——贾庆林

Standing committee of CCCPC political bureau Jia Qinglin

- 公司充分发挥品牌优势和机电一体化优势，脚踏实地地发展与主业相关的产业，通过低成本扩张和，兼并重组和合资合作成立了一批新公司，促进公司规模进一步扩大。目前，公司拥有全资子公司8家、分公司5家、控股子公司8家（包含一家上市公司），公司总资产超过 300亿元

XEMC fully takes advantages of its core technology-mechanical and electrical integration; has developed lots of industries relating to the main industry; and has set up a number of new companies through low-cost expansion, merger and joint venture to promote the further development of company. Currently, XEMC has 8 wholly-owned subsidiaries, 5 branch companies , 8 holding subsidiaries (include 1 public company) , with total assets of 30 billion RMB.



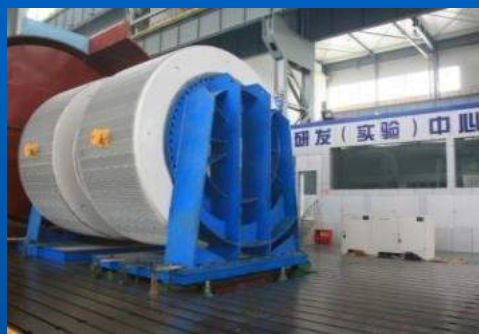
Company size | 公司规模





- 公司充分利用国际国内两个市场、两种资源，加快在国外进行战略布局，积极寻求在市场、技术、产业发展方面取得新突破，努力抢占新一轮国际市场竞争的制高点。

XEMC tries to make full use of internal and abroad markets and resources, to accelerate the strategic layout in foreign countries, seeking new breakthroughs in market, technology, industrial development, making efforts to seize the high ground in international competition.



- 公司专业的技术、先进的装备、优质的服务、完善的营销机制，长期专注于机电一体化成套装备的技术研发和市场开发，使产品市场竞争力不断提高

Specialized technology, advanced equipment, service of high quality, mature marketing and sales mechanism, long-term focus on the development of technology and marketing of complete set of equipment of mechanical and electrical integration, all of the above work continuously improves the marketing competitiveness of the XEMC.

公司部分重大新产品市场占有率
The market share of XEMC's major new products

	产品名称 brand name	国内市场 domestic market	备 注 remarks
1	船用电力推进系统 Marine electric propelling system	100%	国内唯一生产企业 The unique manufacturing company in China
2	大型工矿电力机车 Large-scale mining electric locomotive	100%	国内唯一生产企业 The unique manufacturing company in China
3	城轨交通场站设备 Urban rail traffic station equipment	100%	国内唯一生产企业 The unique manufacturing company in China
4	电机扩大机 Motor expanding machine	100%	国内唯一生产企业 The unique manufacturing company in China
5	船用大型泵 Marine large-scale pump	100%	国内唯一生产企业 The unique manufacturing company in China
6	大型电动轮自卸车 Large-scale electric self-dumping truck	45%	国内唯一生产企业 The unique manufacturing company in China
7	小型工矿电力机车 small-scale mining electric locomotive	25%	居国内同行业首位 The first place in the domestic industry
8	大中型交流电机 Large and medium scale alternator	13%	电站辅机电机国内第一 The first place of domestic power station auxiliary motor
9	直流轧钢电机 steel rolling direct current motor	54%	居国内同行业首位 The first place in the domestic industry
10	城轨交通牵引系统 Urban rail train drawing system	25%	居国内同行业首位 The first place in the domestic industry

Technique advantage | 技术优势

公司研发能力雄厚，国家及地方几大研究中心均落户湘电

XEMC has strong research and development ability, Several national research center are settled in XEMC.



科技大楼



- 国家认定企业技术中心
National level R&D center
- 国家能源风力发电机研发（试验）中心
The national recognition of the wind generator China national energy research and development (test) center
- 海上风力发电技术与检测国家重点实验室
China offshore wind power generation technology and detection of state key laboratory
- 国家牵引电气设备研究所
China traction electrical equipment research institute
- 国家工矿电动车辆检验中心
National Mining Electric Vehicle Detection Center
- 国家高技术产业基地
The national high technology industry base
- 湖南省大中型机电产品质量监督检测站
Hunan large and medium-sized motor control product quality supervision and testing station
- 湖南省机械工业大中型水泵质量监督监测站
Hunan machinery industry large and medium-sized water pump quality supervision and monitoring stations.

Technique advantage | 技术优势

- 公司拥有18个技术研究机构，先后研制开发了25大类、188个系列、3300多个产品

XEMC owns 18 technology research organization, which developed 25 categories, 188 series, more than 3,300 products.

- 2 个研究院
Research Academy
- 6 个研究所
Research institute
- 2 个国外研发基地
Foreign research base
- 8 个方向的博士后工作站
Postdoctoral workstation



Talented person's advantage | 人才优势



- 企业的发展依赖于创新能力，创新能力来自于企业的职工。湘电集团拥有一支高素质的机电一体化技术研发队伍和职工队伍，在研究、设计、工艺、生产方面具有强大人才保证。现有各类专业技术人才2939人，其中：国家级专家19人；技术工人5400人，高技能人才占全部技术工人的41%



We believe innovative abilities determines the growth of the enterprise and the innovation comes from talents. XEMC has a high quality faculty in electro-mechanical technology. We have 2939 professionals working as our employee in the field of research, design, process and manufacturing, of whom 19 people are national level experts. We also have 5400 technicians, of whom 41% are highly skilled.

PART

2

Leading products

主导产品

Leading products | 主导产品

- 公司以电传动技术为核心，在电机电气成套设备技术基础上，衍生出电气牵引、船舶电力推进和电动车辆制造三大核心技术，在这三大技术的基础上，延伸产业链，打造四大产业板块。

XEMC with motor electric equipment technology as the foundation, derive three core technologies of the marine electric propulsion, vehicle traction control, complete sets of electric machine, on the basis of which XEMC extends the industrial chain, expands the range of product.

1 国防特种装备



2 电工成套装备



3 新能源装备



4 特种车辆装备



1

主导产品—国防特种装备

Leading products—Defense equipment



2

主导产品—电工成套装备

Leading products—Electrical products

■ 电机产品
AC and DC motor

■ 大型水泵
Large Pumps

■ 城市轨道
Urban Rail Facilities



- 湘电集团是我国电机研究、生产发源地，是电机行业的领军企业。

XEMC is China's motor research, production, is leading enterprise in motor industry.

- 湘电集团是国内电机行业最具创新能力的厂家之一。

XEMC is one of the most innovative manufacturers in domestic motor industry.

- 湘电集团是负责制定电机行业的国家及行业标准的归口单位。

XEMC is responsible for formulation of motors industry and the industry standard centralized state units.

- 湘电集团从80年代中期起，先后引进美国西屋公司、东洋等公司的电机制造技术，成功应用于新产品开发，使公司电机研发技术达到国内先进水平，并实现与世界同步。

Since 1980s, XEMC has introduced the motor manufacturing technology of us Westinghouse, Toyo and so on, then successfully applied to the new product development, make motor development technology of XEMC to achieve domestic top level, and achieve and world synchronization.



- 湘电集团生产的大中型交、直流电机、高效节能电机、轧钢电机、牵引电机、永磁及电励磁电机、双馈风力发电机、燃气轮发电机与柴油发电机，在全国具有重要的地位

XEMC's production of large and medium-sized AC/DC motors, traction motor, permanent magnet and electric excitation system motor, doubly-fed wind-driven generator, gas wheel generator and diesel generator ,which has an important position in China.



生产能力/Production Capacity	
交流电机 (AC Motor)	1000万kW/年 (10000 MW/year)
直流电机 (DC Motor)	290万kW/年 (2900 MW/year)
电机规格范围 (Motor specifications range)	功率(Power):0.7kW~40000kW 重量(Weight) ≤400t



亚洲首条电机自动化生产线/The first motor automatic production line in Asia



- 湘电集团新建的电机自动生产线总占地面积6930平方米，具备年生产5000台的能力，是亚洲首创，技术水平世界领先。

XEMC's the new automatic production line of motors covers an area of 6930 m², with annual production capacity of 5000 sets, which is the first in Asia, with the world's leading technology level.

The energy efficient motor | 高效节能电机

- 湘电 “高效节能电机” 科研成果属 “国家科技支撑计划” 资金支持的国家重大集成科技创新。该技术填补了国内空白，有效降低电磁能、热能和机械能的损耗，提高输出效率，能耗比普通电机能耗降低20%至30%，效率比传统电机提高1-2%，目前，公司已建成年产300万kW高效电机的生产线。公司高效电机产品目录，已全部列入中央财政补贴目录。

XEMC "energy efficient motor" scientific research is Major integrated science and technology innovation Which has " National Science supported planning" funding support. The technology fills a gap in domestic, effectively reduces the electromagnetic energy, heat and mechanical energy of loss, improves output efficiency, with reduction of energy consumption by 20% to 30% than ordinary motor, increase in efficiency than traditional motor by1-2%. At present, XEMC has established the annual output of 3,000,000 kW production line. The company efficient motor product catalogue, already all list into the central finance allowance directory.



- 火力发电站辅机配套电机，是公司的拳头产品，主要用于拖动引风机、送风机、一次风机、循环水泵、凝结水泵、给水泵和磨煤机等，目前，公司在火力发电站辅机驱动电机等高端客户领域，市场占有率达到50%以上

Thermal power station auxiliary motor is the competitive product of XEMC, mainly used for drive induced draft fan, pressure fan, primary air fan, water circulating pump, water feed pump and coal mill etc. At present, In high-end customers fields such as coal-fired power plants auxiliary motor for drive which market share up to 50%



风机电机/Fan motor



立式循环水泵电机/
Vertical circulation pump motor



立式凝结水泵电机/
Vertical condensate pump motor



主轧机电机（ABB合作项目）/Lord mill motor



精轧机电机/Lianfeng motor

- 大型变频调速电动机具有效率高、噪声小、调速范围广、运行平稳、过载能力强等优势。目前，公司已经占据全国冶金市场（棒材、管线、中厚板、冷轧、H型钢）比较大的市场份额，同时也与ABB、西门子、达涅利、安萨尔多、TMEIC等国际企业在多个冶金项目上进行了合作。

The Large sized frequency conversion motor has high efficiency, low noise, wide range of speed, smooth operation, overload ability and other advantages. XEMC has dominated the national metallurgical market bigger market share. Also XEMC has cooperated with ABB, SIEMENS, DANIELI, ANSALDO, TMEIC on many metallurgical projects.

Dc Rolling Motor 直流轧钢电机

- 公司生产的大型直流电机，在全国具有重要地位。近几年公司开发的直流轧钢电机一举打破进口产品在我国垄断地位，目前已占据国内市场的54%，被评为国家十佳经济效益专利产品

XEMC's large-scale DC motor, Occupies the important position in China. In recent years, the development of DC rolling motor of XEMC breaks the record of import products monopoly position in China and occupies 54% of the domestic market . The product was awarded as one of the top ten economic benefits patented products in China.



轧钢电机在天津大无缝钢厂运行现场图

Rolling motor in tianjin large seamless steel operation site map

- 公司所产的水泥、建材市场用电机，市场占有率达到40%以上，居于同行业前列。全球最大水泥集团海螺水泥、冀东水泥所配套的电机大部分由湘电集团提供

The market share of Motor manufactured by XEMC for cement, construction materials industry is up to 40% in China. The motors for the world's largest cement production group—ANHUI CONCH、Tangshan Jidong Cement are provided by XEMC.



贯流泵电机/
Tubular Pump Motor



立式大型同步电机/
The large-scale vertical type synchronous motor



变频异步电机/
Frequency conversion asynchronous motor



- 水资源配套电动机涵盖水利排灌、自来水等领域，有国际流行的方形机座和开启式圆形机座电机，能够满足各种使用工矿及环境要求。公司引进国际先进技术研制生产的永磁电机配套南水北调淮阴三站工程贯流泵，是国内水利行业首次使用此种国际最先进机型

Motor for water conservancy project covers areas such as water conservancy, water drainage and irrigation, and has international popular support and round square motor base, which can satisfy all sorts of use industrial and environmental demand. XEMC imports international advanced technology development and produces permanent magnet motor supporting the south-to-north water diversion project, which is the first use the international most advanced model in domestic water conservancy industry .

南水北调东线淮阴三站泵站贯流泵的现场
Tubular pump of South-North Water
Diversion Project

- 公司防爆电机形成了以隔爆型、增安型、正压通风型、粉尘防爆型三相交流异步电动机和TAW增安型无刷励磁同步机等为主的产品系列. 产品应用于国家西气东输工程、石油天然气管道增压工程、广州石化、乌鲁木齐石化等，获得用户的一致好评。

Motors of XEMC formed a flameproof, Security-enhanced type, positive pressure ventilation type, dust explosion-proof three-phase AC induction motor and TAW Security-enhanced brushless excitation synchronous type etc. products series. The products are widely used in the west-east national gas transmission project, the pressurized project of natural gas pipeline, SINOPEC Guangzhou, SINOPEC Urumchi. And they are well appraised by users.



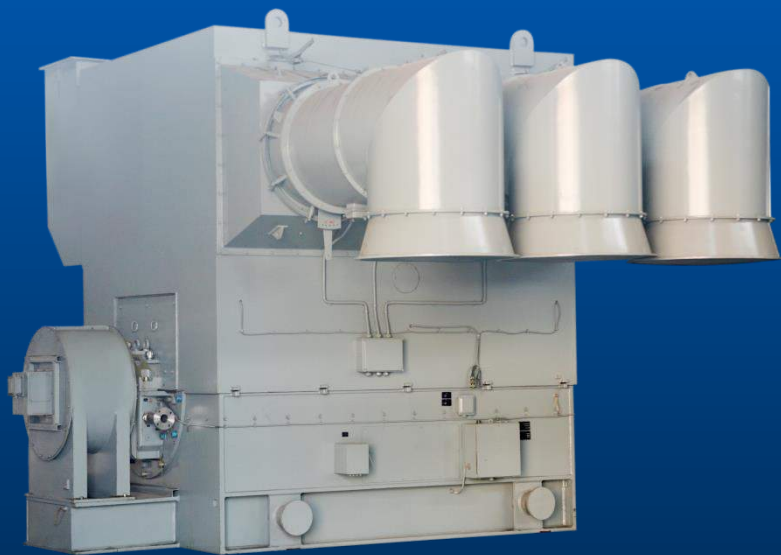
YAKK、YAKS系列高压增安型三相异步电动机
YAKK, YAKS series high-voltage increase
Ann type three-phase asynchronous motor



隔爆型三相异步电动机
Flameproof three-phase
asynchronous motor

- 湘电集团最新研发的工业发电机与柴油机、汽轮机、燃气轮机等驱动机具有很好的配套性，广泛适用于生物质发电、垃圾发电、余热余压发电、热电联产等环保领域。

Our industry generator has advantage as: design optimization, structure compact, manufacture sophisticated, work reliable and maintain convenient and can be application for diesel engine, steam turbine, it is widely used for biomass electricity generation, garbage electricity generation, waste heat electricity generation and cogeneration.



TFW27600kw生物质能发电机
配套日立公司燃气轮机

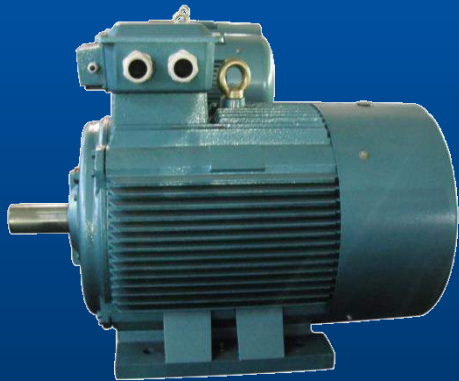


TFW38000kW-4-10kV 生物质能发电机
与配套西门子公司汽轮机

Small low voltage motor | 小型低压电动机

- 公司生产的小型低压异步电动机具备效率高、节能、性能优良，负载噪音低，振动小等特点，产品广泛配套应用于机床、风机、水泵、压缩机、搅拌机、运输机械、矿用机械等设备。

Our small low voltage asynchronous motor has the advantage as: efficiency high, energy saving, noise low, vibration small and application for machine tool, fan, pump, compressor, mixer, transport mechanics and mine machine



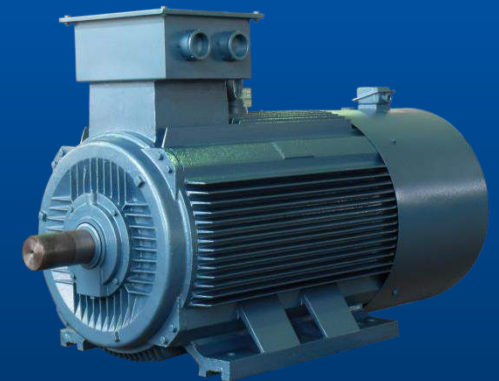
Y系列低压电动机



Y2系列低压电动机



空冷岛电机



YSP变频调速电动机

- 公司大中型交直流电机技术水平处于国内领先地位，产品广泛主要用于电力、水泥建材、冶金、水利灌溉、矿山、风能等领域。近几年，我公司在电机行业的市场占有率维持在13%-14%左右，特别在火电站辅机驱动电机等高端客户领域，市场占有率达到50%左右

The key products of our group is large size AC-DC motors, specifically for power generating industry, metallurgy industry, irrigation industry, water project, mining industry, with Technical level in the domestic leading status. The market share of our products in the motor industry is 13%-14%. Specially in coal-fired power plants auxiliary motor and other high-end customer areas, which reaches up to 50% market share .



Large Pumps | 大型水泵



出口日本的大型泵
Large Pumps Exported to Japan

- 湘电集团是中国水泵行业五大重点企业之一，产品在火电领域名列首位，创造出多个第一

XEMC is one of five national key enterprises and is honored as excellent enterprise in machinery industry. Our pump products are listed as No.1 both in thermal power plant area and other areas.



大型挖泥船泵
Large dredge pump

- 湘电集团相继成功开发了47个系列产品，广泛应用于能源、冶金、化工、环保等领域，综合优势在中国处于前列

XEMC have successfully developed 47 series products widely used in energy, metallurgy, chemical industry, environmental protection and other fields, the comprehensive advantages are in a leading position in China.

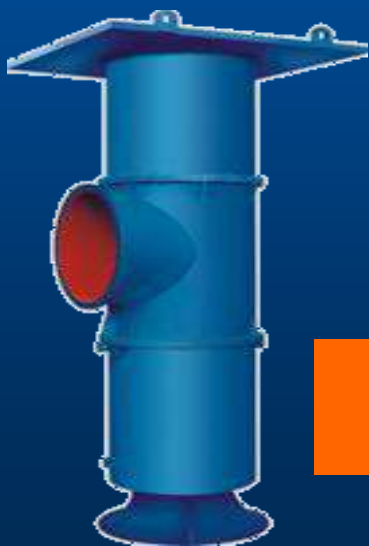
- 2007年中国安全局以 105 号文件批准公司生产核泵

China Security Council Issued Document 105 to approved the nuclear pumps production of XEMC in 2007 .



- 公司主要产品有立式斜流泵、立式凝结泵、立式涡壳泵、中开离心泵、轴流泵、潜水电泵、多级泵、悬臂泵、不堵式泵、挖泥船泵、脱硫泵、排污泵、核电用泵（混凝土蜗壳泵、余排泵）等，产品远销欧、美、亚、非等52个国家和地区，除了南极洲之外，其它六大洲都有我们产品的身影

XEMC have Vertical mixed flow pumps, vertical condensate pump, vertical volute pump, single stage centrifugal pump, Axial flow pump, submersible pumps, multistage pumps, cantilever pumps, chemical pumps, non-blocking pump, sewage pumps, marine dredging pumps, variable frequency control devices, and exertion in exploring international market extended our product in 52 regions and countries around the world and covered 6 continents.



大型立式斜流泵
Large-size vertical
mixed flow pump



大型立式凝结水泵
Large-size vertical
condensate pump



GZ型系列贯流泵/
GZ Series tubular
pump



SG型双吸中开式离心泵/
Type D multi-stage
pump



核泵/
Nuclear Pump



SDK型双吸中开多级泵
Large vertical volute
pump



柴油机水泵/
Diesel engine water
pump



多级泵/
Multi-stage Pump



大型立式涡壳泵
Large vertical volute
pump0



脱硫浆液泵/
Desulphurization Slurry
Pump

Pump typical performance | 水泵典型业绩

- 产品主要面向百万机组的火电主机厂，其中凝结水泵、循环水泵在火电市场的占有率在40%以上，排在同行前列

Our products are mainly used in the power generating plants, condensate pump, the circulating water pump in thermal power market share is over 40% at the forefront of peers.

- **水利领域典型业绩：**国家南水北调工程、地方调水防洪、排灌及农业灌溉工程等

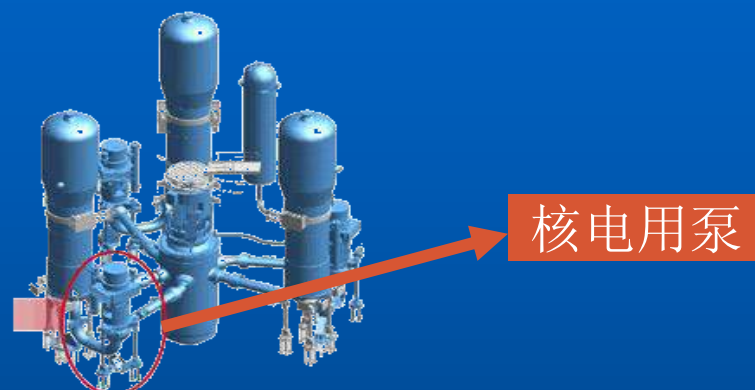
Divert water from south to north project, local water diversion project and irrigation project.

- **市政工程领域的典型业绩：**胶东半岛建设工程、天津航道局、上海城市增容工程等

Jiaodong penisular project, Tianjin shipping channel and Shanghai city expansion project.

- **核电领域典型业绩：**中广核所辖的广东阳江、大连红沿河、福建宁德、岭澳二期核电站等

CGN's guangdong yangjiang, Dalian Hongyanhe, Fujian Ningde, and Lingao second phase nuclear power generating project.



广东阳江核电站

Guangdong Yangjiang Power Generating Pproject

- 湘电集团在国内为最早生产城市轨道交通车辆配套电机电器专业厂家，因其配套能力强因而在国内地铁行业具有较高地位
- 1999年公司被国家发改委定为地铁轻轨牵引系统国产化定点生产单位

XEMC is one of the first company in china that manufactures electrical motors and equipments for light rail vehicles. Because of its high capability, XEMC was appointed by the national development and reform commission as the nationalization center for light rail vehicles.



地铁牵引电机
Subway traction motor



电气成套装备技术
Electrical equipment technology



城市轻轨车
Urban light rail car

- 从1964年研制出我国第一套城市轨道车辆成套电气设备开始，湘电集团走过了从直流到交流传动控制系统自主研发、从配套电气设备到整车制造的发展历程

Since 1964, XEMC developed the first set of urban rail vehicles complete electrical equipment in China. XEMC has gone through the development from DC to AC drive control system with independent research and development, from supporting electrical equipment to the development course of vehicle manufacturing.



- 湘电集团形成了完整的城市交通车辆的研制体系和生产体系

XEMC established a complete research system and production system of urban rail vehicle.



1991年开发出第一代城市轻轨车

First generation was developed in 1991.

2000年开发出第二代城市轻轨车

Second generation was developed in 2000.

2005年开发出第三代城市轻轨车

Third generation was developed in 2005.

2014年，100%低地板新型城市有轨电车样车试运行成功

100% low floor light rail prototype vehicle run successful in 2014.

Subway Electrical Equipment | 地铁电气成套设备

- 湘电集团在国内城轨车辆电气设备市场竞争中处于领先地位。从1964年开始为北京地铁研制车辆全套电气设备到现在，公司一直在国内电气牵引设备市场领域内占据领先主导地位

XEMC is in the leading place of urban rail vehicle electrical equipment domestic market competition. Since 1964, XEMC started to manufacture Beijing metro vehicle complete electrical equipment, XEMC has been in the first part of domestic electric traction equipment market.



Light rail vehicles | 轻轨车辆



1991年研制出我国第一台轻轨车。
XEMC developed the first light rail vehicle of china in 1991.



2000年 研制出YK4-1新型有轨电车
In 2002, XEMC developed a new type of light rail vehicle YK4-1.



2001年研制出我国第一批80%自制率的交流调速车。
In 2001, XEMC developed the first AC speed adjusting light rail vehicle with 80% efficiency.



2001年至2003年为长春市提供70%低地板轻轨车20辆
From 2001 to 2003 XEMC has supplied 20 units of 70% low floor light rail vehicles for changchun city.



公司新研制的100%低地板新型城市有轨电车
XEMC newly developed 100% low floor light rail vehicle .

3

主导产品—新能源装备 Leading products—New energy

■ 风 电 装 备
Wind Turbines

■ 太 阳 能 装 备
Solar Power

- 湘电集团作为风电整体解决方案的系统供应商，从事兆瓦级风力发电机组整机和部件的设计、制造、销售和服务，具备年产兆瓦级风力发电机组3000台套的能力
- 湘电集团是中国国家发改委确定的兆瓦级风力发电机组集成的制造基地、中国863计划及科技支撑计划重大专项承制单位、湖南省重大科技专项兆瓦级风电机组整机产业化项目牵头单位

XEMC as provider of One-stop integrated solution for wind power industry, is mainly engaged in design, manufacturing, sale and service for mega (w) wind power generators sets and components, which has capacity for making 3000 mega (watt) wind power generator sets.

XEMC is The manufacturing base of megawatts grade wind power generator set integration pointed by the State developing and reform committee, The China's 863 major projects and technology support plans manufacturing unit, The lead unit of the major science and technology projects in Hunan MW wind power integral machine set industrialization projects.



中国总装基地



欧洲总装基地

国际领先的直驱式风机
设计制造技术
Direct Drive Technology



一流的生产制造设备
Advanced Manufacturing
Equipments



- 公司从事风电研究的技术人员有450余人，包括在欧洲湘电达尔文有限公司的72名拥有欧洲顶级设计水准的研发团队

XEMC owns 450 technical staff, including 72 the technical staff in Darwind which represents top European design level.

- 公司在湖南湘潭、内蒙古通辽市，福建漳州、甘肃武威、江苏启动建立了风电生产制造基地，构筑了完整的风电产业链

XEMC plans to set up several wind power manufacturing bases in Xiang Tang, Tong Liao ,Zhang Zhou , Wu Wei, Jiang Su, building a complete set of wind power industry chain.

- 公司已经形成湘潭发电机生产基地、长沙铸件生产基地、江苏叶片生产基地、湘潭主轴承生产基地、湘电变流器及电控柜等核心零部件生产基地，为公司风机进行系列配套

XEMC has been formed Xiangtan generator production base, Changsha casting production base, Jiangsu blade production base, Xiangtan main bearing production base, Hunan electric converter and electric control cabinet core components such as production bases, for series wind turbine of the company .

On-Shore Wind Turbine | 直驱风力发电机组

- 公司拥有成熟的兆瓦级直驱型风力发电机组技术，拥有完全自主知识产权，先后成功开发出1.5MW、2MW、2.5MW、3MW、5MW的直驱风力发电机组，具备低电压穿越能力，对电网的兼容性好，简单可靠、效率高，适用于山地、陆地低温、陆地高温、高海拔、多台风、潮间带特殊风资源地区。

XEMC owns a completed matured know-how of mega-level direct drive power generator, through years of research, it has successfully developed 1.5MW, 2MW, 2.5MW 3MW, 5MW direct drive wind turbines with low voltage across ability, which are fit to mountain land, low temperature, high temperature, high altitude land and typhoons, intertidal zone, sea wind resources type special areas.

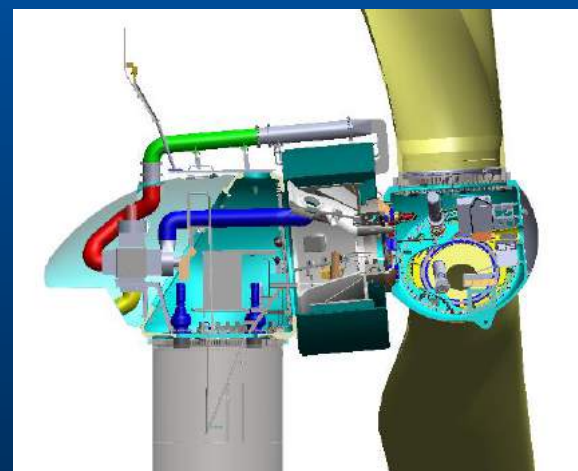
- 公司应市场需求，先后开发出永磁直驱风机与电励磁直驱风机，为客户提供多样化选择。

XEMC complying with the market demand, developed permanent magnet direct wind turbine and electric excitation wind turbine, to provide diversification choice for the customer .



永磁直驱风组结构图

Structure of permanent magnet wind turbine



电励磁直驱风机结构图

Structure of electric excitation wind turbine

Off-Shore Wind Turbine | 5MW海上风力发电机组

- 2011年9月13日，湘电自主研发的世界首台5MW直驱型风力发电机组在荷兰的Wieringermeer风电场成功并网发电

September 13, 2011, the first 5MW direct-drive wind turbine of the world independently developed by XEMC, has been successfully installed and grid connected in Wieringermeer wind farm at Netherlands.

- 2012年3月，公司5MW风力发电设备受到国际市场的高度认可并成功进入欧洲市场，公司与欧洲斯达巴格集团在全德国的全资子公司温特克拉夫特签订10台5MW风力发电机组合同

March 2012, a 10 units purchase between XEMC and Windkraft-a wholly owned subsidiary of Europe Strabag group in Germany has witnessed the internationally highly-recognized 5 MW direct-drive wind turbine has successfully entered the European market.

- 2012年4月，公司第二台5MW风力发电设备在中国福建省福清海域成功安装，并顺利实现并网

April 2012, The second 5 MW direct-drive wind turbine has been successfully installed and grid-connected in Fuqing Fujian China.

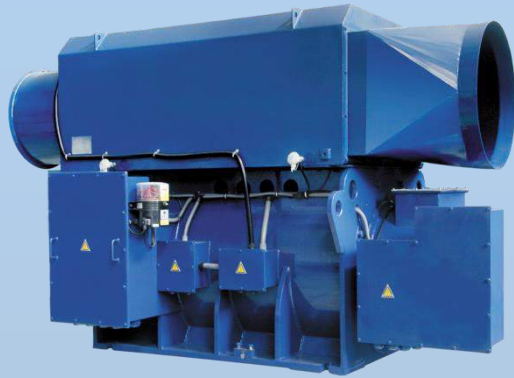


5MW海上风力发电机在荷兰
5MW direct drive wind turbine in Dutch

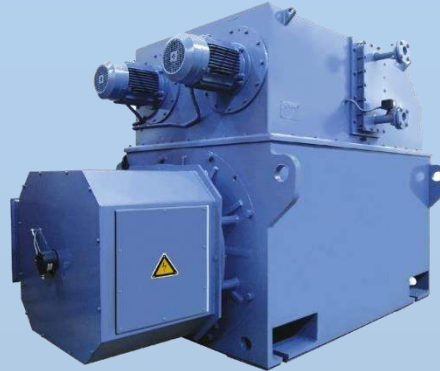


湘电5MW海上风力发电机在福建
5MW direct drive wind turbine in Fujian

Double fed wind generator | 双馈型风力发电机



1. 5MW双馈风力发电机



2. 5MW双馈风力发电机



6MW双馈风力发电机

湘电集团是中国最大的双馈风力发电机的生产基地，双馈风力发电机包括1.5 MW、2MW、2.5MW、3MW、6MW双馈异步风力发电机，能适应陆上、海上、高原、山地、戈壁等各种风况。产品为国内各大主机厂配套，同时出口到美国、荷兰、保加利亚等国家和地区。

XEMC is the largest Production Base of double fed wind generator in china, our Products Include: 1.5MW, 2MW, 2.5MW, 3MW and 6MW. Our wind generator can Adapt to Different wind Situation at land, sea, Plateau, Mountain and Gobi. Our wind generator has been Export to America, Holland and Bulgaria.

- 截止到2013年12月底，公司承接2MW~5MW直驱风力发电机组订单累计达到2400多台套，已安装运行风机达到1800多台套。 2013年湘电新增风电装机1052MW，国内排名**第五位**
- 公司投资建设的福建嘉儒、福建石井、湖南郴州、云南百花山风场已经建成；山东烟台、山东威海、辽宁益州、内蒙古大板梁等风场正在建设中。至2014年底，总计将有10个风电场投入运营，总装机容量47.2万千瓦；

2013 年中国风电累计装机排名前 20 的机组制造商

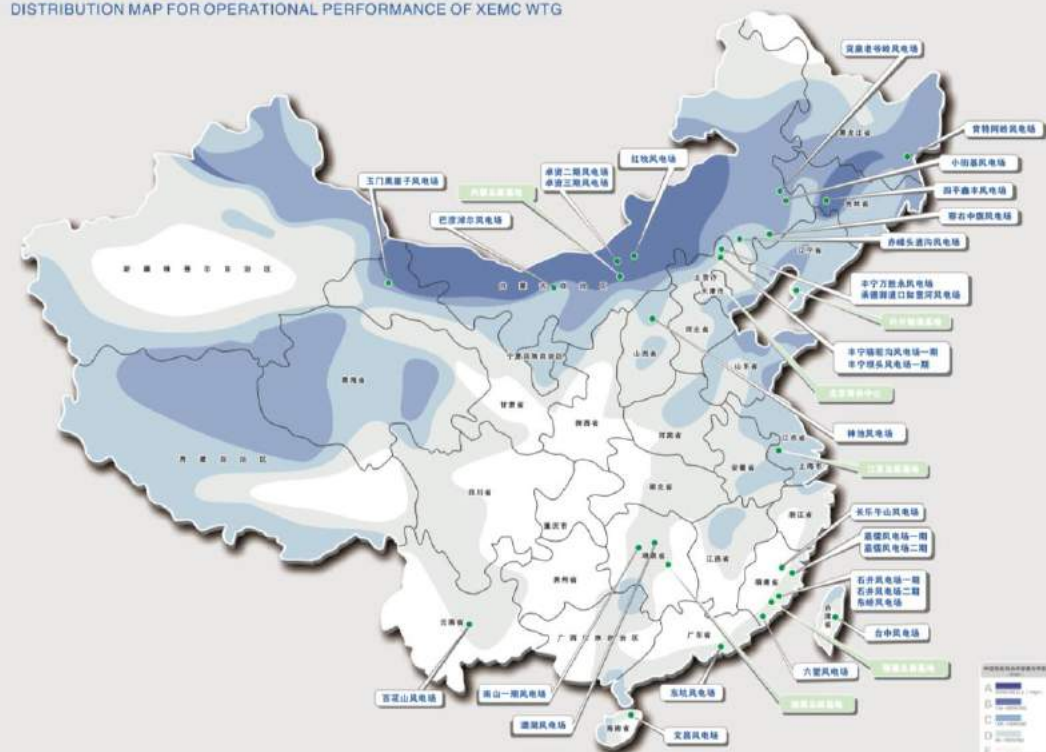
序号	制造商	装机容量 (MW)	装机容量 占比
1	金风科技	18950.6	20.70%
2	华锐风电	15076	16.50%
3	联合动力	8798.5	9.60%
4	东汽风电	7938	8.70%
5	明阳风电	5542.5	6.10%
6	Vestas	4487.6	4.90%
7	湘电风能	3746.5	4.10%
8	上海电气	3617.45	4.00%
9	Gamesa	3535.85	3.90%
10	远景能源	2420.6	2.60%
11	重庆海装	2061.45	2.30%
12	华创	2045.1	2.20%
13	运达	2001.25	2.20%
14	GE	1809.9	2.00%
15	南车风电	1645.75	1.80%
16	Suzlon	901.3	1.00%
17	华仪	874.18	1.00%
18	三一电气	598	0.70%
19	许继风电	580	0.60%
20	Nordex	574.2	0.60%
	其他	4208.16	4.60%
总计		91412.89	100.00%

2013 年中国风电新增装机排名前 20 的机组制造商

序号	制造商	装机容量 /MW	装机容量 占比
1	金风科技	3750.25	23.30%
2	联合动力	1487.5	9.20%
3	明阳风电	1286	8.00%
4	远景能源	1128.1	7.00%
5	湘电风能	1052	6.50%
6	上海电气	1014	6.30%
7	华锐风电	896	5.60%
8	重庆海装	786.7	4.90%
9	东汽	573.5	3.60%
10	运达	538.75	3.30%
11	Vestas	507.7	3.20%
12	华创	474	2.90%
13	南车风电	343.45	2.10%
14	华仪	314.1	2.00%
15	太原重工	293	1.80%
16	Gamesa	256.75	1.60%
17	三一重能	219.5	1.40%
18	许继风电	216	1.30%
19	GE	174.4	1.10%
20	久和能源	146	0.90%
	其他	631	3.90%
总计		16088.7	100.00%

湘电风能机组投运业绩分布图

DISTRIBUTION MAP FOR OPERATIONAL PERFORMANCE OF XEMC WTG



湖南郴州鲁荷金风电场项目

Luhejin Wind Farm



云南省昆明市百花山风电场项目

Baihua Mountain Wind Farm



湖南郴州三十六湾风电场项目

36 Bay Wind Farm



- 湘电集团是碟式太阳能发电领域的先驱者
- 湘电集团一直致力于绿色环保节能事业，早在1985年，公司就生产了中国第一台碟式太阳能热发电系统，得到了中国国家计委、机械工业部、中国科学院的高度评价

XEMC is disc type solar power field of pioneers .

XEMC has been committed to the green energy saving, early in 1985, the company produced the first disc type Chinese solar thermal power generation system, obtained high praise from State Development Planning Commission and Ministry of Machine-Building Industry, and Chinese Academy of Sciences.



1985年，公司成功研制出中国首台碟式太阳能热发电设备。该发电设备通过集热器将太阳能转变成热能，其反射直径为7.3米，具备多云天气自动连续追日及恶劣气候条件下快速返回躲藏位功能，其设计理念与实验效果均具有世界领先水平，即使是在现在仍具有很强的先进性

XEMC has successfully developed a disc type solar power generating system in 1985 above here. The generating equipment change solar energy into heat energy through the collector, the diameter is 7.3 meters, with automatic successive cloudy day and severe weather conditions after next quick return to hide a function, its design concept and experimental results reach the world advanced level, and even now still have high sophistication.

- 2011年，公司全资收购了斯特林发动机领域最为知名的美国Stirling Biopower (SBI) 公司。
- 2012年，公司全资收购了斯特林热发电领域最为知名的美国Stirling Engine System (SES) 公司。
- 2013年，湘电自主研发成功多个型号的碟式太阳能热发电系统（25kW/38kW），获得国家专利21项，其中国际专利（PCT）13项，是目前世界上最高效的太阳能发电设备之一。

XEMC purchased the world-famous SBI in Stirling engine industry with wholly fund in 2011.

XEMC purchased the world-famous SES in Stirling thermal power generation industry with wholly fund in 2012.

At present, XEMC has independently developed several models of dish solar thermal power system (25kW/38kW) which have won 21 items national patent (containing 13 items international patent) and are the most efficient solar power generation equipment in the world today.





碟式太阳能光热发电电站
Dish solar thermal power plant diagram

湘电面向国内外的实际市场需求，针对不同的用户群、不同的使用环境，研制出系列化、多样化的碟式太阳能热发电产品，产品的谱系基本齐全，客户有充分的选择余地。

湘电致力于打造太阳能产业化发展基地，建立完整的产业链，形成完善的配套设施和相关产业集群，成为全球太阳能整体解决方案的服务商。

XEMC developed serial and diversified dish solar thermal power generation products for different user groups and different environments according to domestic and foreign market demand, XEMC provides a full range of products and customer has multiple choice.

XEMC has been striving to build solar energy industrial base and a complete industrial chain, forming perfect supporting facilities and relevant industrial clusters, and becoming the world-renowned solar energy integral solution providers.

- 湘电集团作为国内最早开发电动汽车项目的企业之一，是我国电传动技术研发应用的先行者，并且在国内率先研制、成功开发城市混合动力电动大巴，形成了完整的新型城市交通车辆的研发、生产体系，成为国内少有的几个具有系列城市交通车辆研发、生产能力的企业之一
- 湘电集团在电动汽车核心零部件研发方面一直处于国内领先水平。目前已成为国内唯一串联式混合动力车用同步发电机专业设计生产厂家，是美国德尔福公司在中国唯一的电动汽车电机供应商

XEMC is one of the earliest enterprises which developed electric automobile project in China, and also with high electric drive technology R&D application technology. XEMC takes the lead to research, and successfully developed city hybrid electric bus, forming a complete new urban transportation vehicle development, and production system in China. XEMC is one of the few enterprises which have R&D, production capacity in urban transportation vehicle industry.

XEMC is in the leading place in the field of electric car core parts technology research in China. XEMC has become the only manufacturer of hybrid vehicle synchronous generator professional design and production, and the only Electric Vehicle motor supplier of Delphi Corporation in China.



混合动力电动大巴/Hybrid Electric Bus



纯电动汽车/Electric Vehicle



BSG电机/BSG Motor

New energy vehicles | 新能源汽车



2002年，湘电就在国内最早研制出并联式复合动力电动中巴车。
In 2002, XEMC developed the earliest parallel hybrid power electric vehicles in China.



湘电最新研制的纯电动轮毂电机驱动式新能源车。
XEMC developed pure electric wheel motor drive type of new energy vehicle.



2003年，湘电成功研制了具有超前理念双能源低地板客车。
In 2003, XEMC successfully developed dual-energy low floor bus.



2004年，湘电成功研制出混合动力电动公交大巴。
In 2004, XEMC successfully developed the hybrid electric transit bus.

- 与国内外同类ISG电机相比，公司开发的ISG电机高效区占到了80%以上，并形成多种不同功率的系列化产品。2011年，公司成功研制出非晶电机，显著提升了汽车驱动电机的效率。

Compared with those of similar domestic and foreign ISG motor, XEMC developed the ISG motor efficient area more than 80% accounted for, and has formed the variety of different power series products. In 2011, XEMC successfully developed amorphous motor that significantly enhance the efficiency of vehicle driving motor.



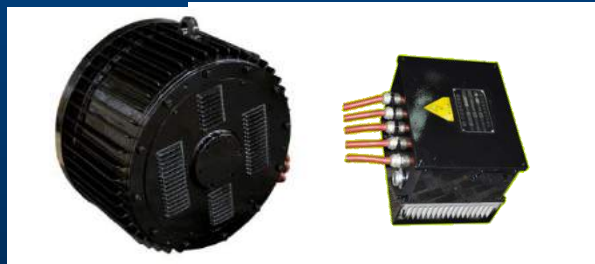
非晶高效节能发电系统



非晶高效节能驱动电机系统



ISG电机及控制系统



客用车同步发电机系统



微混轿车用交流异步BSG电机系统



4

主导产品—特种车辆装备

Leading products—Special vehicle equipment

■ 工 矿 电 机 车
Heavy Load Vehicles

■ 电 动 轮 自 卸 车
Motorized wheel dump truck



- 湘电集团是中国最早生产矿山运输车辆的专业生产厂家和领头企业
- 湘电集团是中国矿山运输车辆国产化基地和品种规格最齐全的企业
- 湘电集团是国家煤炭工业重大技术装备的定点研制单位

XEMC is the earliest manufacturer and bellwether of mine transportation vehicle.
XEMC is the domestic base of mine vehicle and has a complete range of specification.
XEMC is a specialized unit of major technical equipment in China coal industry.

大型电动轮自卸车/

The large-scale motorized wheel dump truck



大型工矿电力机车/

The large-scale industrial electric locomotive



小型工矿电力机车/

The small-scale industrial electric locomotive



Motorized wheel dump truck 电动轮自卸车



100立方米洒水车

100 cubic meters of water truck



108吨电动轮自卸车

108 t Electric Wheel Dump Truck

108吨电动轮自卸车荣获国家“优质产品”金奖、国家科技进步成果特等奖

108 t Motorized wheel dump truck won "quality product" of a national award, national scientific and technological progress special-class award



154吨电动轮自卸车

154 t Electric Wheel Dump Truck



220吨电动轮自卸车

220 t Electric Wheel Dump Truck

220吨电动轮自卸车荣获“中国机械工业科学技术奖”一等奖、“中国工业大奖表彰奖”

220 t Motorized wheel dump truck won china machinery industry awards for science" first prize, "China industry awards recognition award"

Motorized wheel dump truck | 电动轮自卸车



- 2011年5月26日，公司研制出我国第一台300吨大型电动轮自卸车

May 26 2011, XEMC developed the first 300 t Electric Wheel Dump Truck in China

● 大型工矿电机车



150t工矿电机车



224t工矿电机车

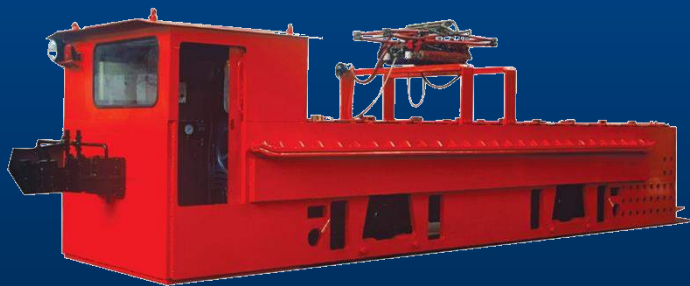


150吨斩波调速准轨电机车

● 小型工矿电机车



2.5t-45t防爆蓄电池式工矿电机车



1.5t-60t架线式工矿电机车



18t-45t蓄电池变频工矿电机车

- 公司大型电动轮自卸车主要在大型露天矿上运行, 包括白云鄂博铁矿、锡林浩特大型露天矿、白音华四号煤矿、华能伊敏煤电、神华新疆公司准东煤矿等。目前, 公司是我国载重量超过100t级以上的大型电动轮自卸车国内唯一生产厂家, 在市场上居于主导地位

Large dump trucks of XEMC are used in open mines. including Baiyungebo iron ore, Xilinghaote open mine, Baiyinhua No.4 coal mine, Shenhua Xinjiang company Huidong coal mine. Currently XEMC is the only company in china that has the capability of manufacturing 100t above rated dump trucks. It is in a leading position in the market place.



聚百年万力
转动世界



『 谢 谢! 』

THANKS