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新四达微信平台
New Sida WeChat Platform



新四达抖音平台
TikTok

永磁直驱电机 有色矿山解决方案

Permanent Magnet Direct Drive Motor Solutions for
Non-Ferrous Metal Mining

HEBEI NEW SDAR ELECTRIC MOTOR CO., LTD
河北新四达电机股份有限公司



企业介绍

Company Introduction

河北新四达电机股份有限公司, 创建于2005年, 总注册资金10631万, 占地160余亩, 是国内最早从事专业设计研发、生产、销售服务为一体的永磁直驱电机及特种重型电机于一体的高科技企业。创建以来始终专注于为工业用户提供高效节能的重型特种电机及控制系统成套解决方案。

Hebei New Sdar Electric Motor Co., Ltd., founded in 2005, has a total registered capital of 106.31 million yuan and covers an area of more than 160 acres. It is the earliest high-tech enterprise in China that specializes in the design, research and development, production, sales and service of permanent magnet direct drive motors and special heavy-duty motors. Since its establishment, we have always been dedicated to providing industrial users with efficient and energy-saving complete solutions for heavy-duty special motors and control systems.

企业资质荣誉

Enterprise Qualification and Honor

国家节能技术推广目录企业
National Catalogue of Energy saving
Technology Promotion Enterprises

国家级专精特新“小巨人”企业
National level specialized and
innovative "little giant" enterprise

国家级绿色设计产品
National level green design prod-
ucts

国家工信部服务型制造示范企业
National Ministry of Industry and Infor-
mation Technology Service oriented
Manufacturing Demonstration Enter-
prise



KA矿安证书
KA Mine Safety Certificate



ISO 证书
ISO certificate



CQC节能认证证书、CE证书
CQC energy-saving
certification certificate
CE certificate



Company vision 公司愿景

围绕绿色高效, 节能智能, 以客户为关注焦点, 以永磁直驱技术为核心, 从制造型向服务型转变, 打造细分领域中涵盖产品全生命周期的隐形冠军。

创新引领发展 合力创造未来

永磁电机技术特点

TECHNICAL CHARACTERISTICS OF PERMANENT MAGNET MOTOR



High Efficiency and Energy Saving 高效节能

- 具有高效率、高功率因数。在25-120%的负荷率范围内,可保持90%以上的运行效率。

Has high efficiency and high power factor. Within the load rate range of 25-120%, it can maintain an operating efficiency of over 90%.



High torque 大扭矩

- 起动转矩大,解决了驱动设备不易重载起动的难题。

The large starting torque solves the problem of difficult overload starting of the driving equipment.



intelligentization 智能化

- 随电机负载大小变化,以及永磁电机电压、电流温度等运行参数的反馈,通过智能变频控制,实现智能化管理。

With the change of motor load size and feedback of operating parameters such as permanent magnet motor voltage, current and temperature, intelligent management is achieved.



Low maintenance cost 维护成本低

- 永磁同步电动机结构简单,材料性能稳定,过载倍数高;变频技术可靠成熟,应用广泛,矢量控制,保护齐全、安全可靠,基本免维护。

Permanent magnet synchronous motors have a simple structure, stable material properties, and high overload multiples.

200+

各种专利及著作权200余项

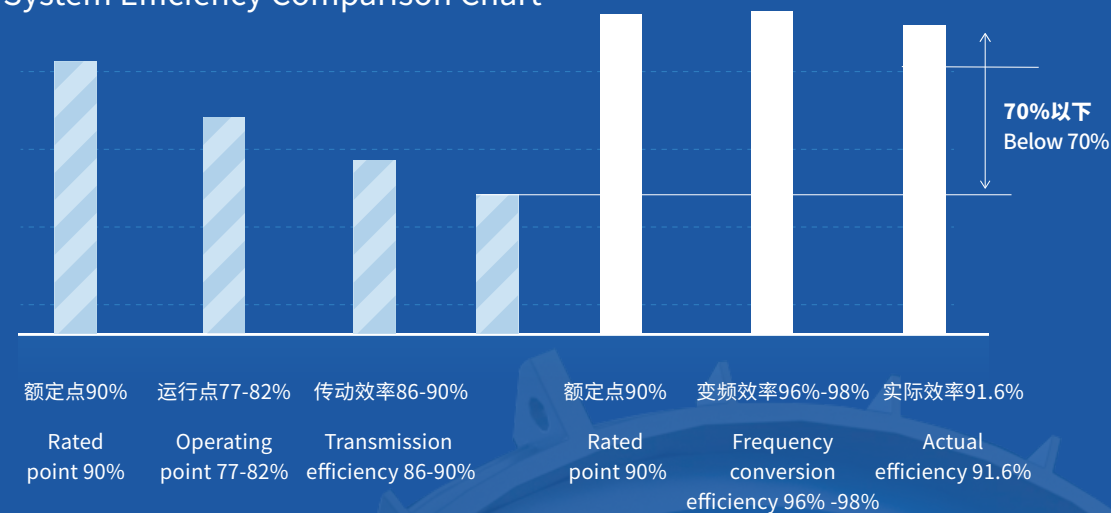
Over 200 patents and copyrights of various kinds

有色金属矿山工艺流程图-设备

Product flowchart of non-ferrous metal mines

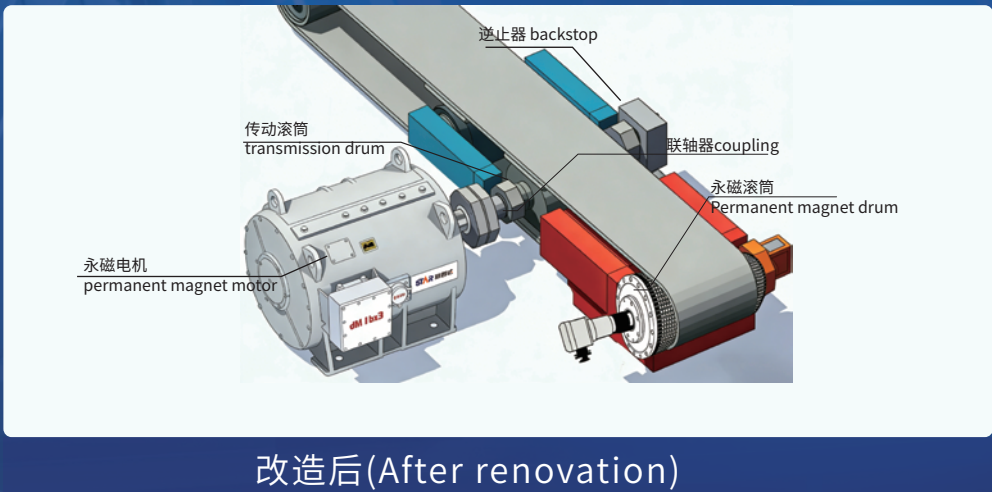
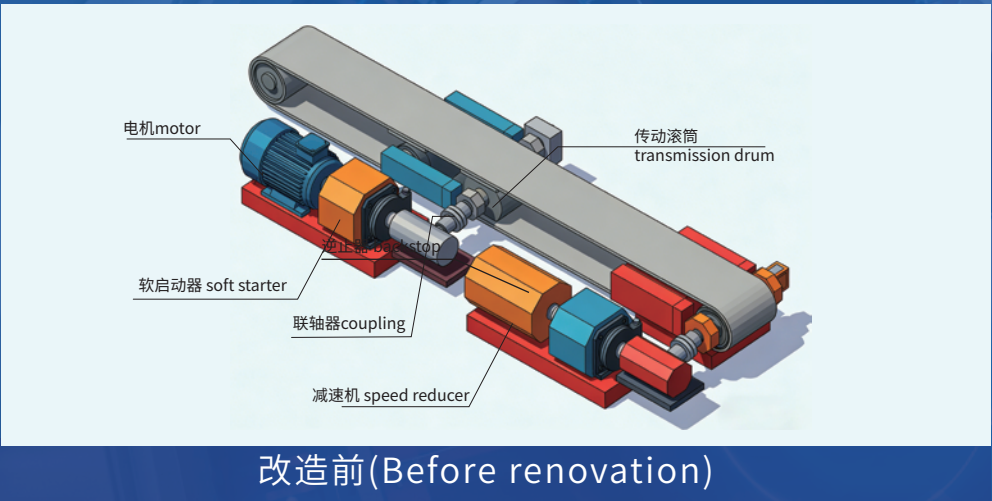


系统效率对比图
System Efficiency Comparison Chart



Before and After Comparison

带式输送机
系统改造前后



矿用产品永磁直驱电机解决方案

SOLUTION FOR PERMANENT MAGNET DIRECT-DRIVE MOTORS IN MINING PRODUCTS

永磁直驱, 化繁为简。不需要减速机、耦合器、润滑油站, 辅传电机等复杂环节, 传动链路大幅缩短, 效率显著提升。节能5%-20%, 从根本上解决漏油与磨损等维护痛点, 实现高可靠、免维护运行, 全生命周期成本最优。

Permanent magnet direct drive simplifies complexity. Without the need for complex components such as reducers, couplers, lubrication stations, and auxiliary transmission motors, the transmission chain is significantly shortened and efficiency is significantly improved. Energy saving of 5% -20%, fundamentally solving maintenance pain points such as oil leakage and wear, achieving high reliability, maintenance free operation, and optimal lifecycle cost.

大型破碎设备-永磁直驱电机驱动方案

Large Crushing Equipment - Permanent Magnet Direct Drive Motor Drive Solution

润滑油站

减速机

搜索: 00:00:18 (关键帧) (14%)



革命性的直驱传动技术
促进工业领域无齿轮化发展



TYFB边传直驱球磨机系统
无齿轮传动结构 系统效率大幅提升 功率范围100kW-2500kW

TYZM中心传动直驱球磨机
无齿轮传动设计 功率范围2500kW-6000kW

TYBR包绕式直驱球磨机
无齿轮化传动设计 效率更高 功率范围375W-2500kW

TYFB系列球磨机专用永磁同步变频电机

TYFB series ball mill dedicated permanent magnet synchronous variable frequency motor



技术参数 Technical Data

功率范围 (P) : 355-6000kW
额定电压 (U) : 6/10kV
功率因数 (cosφ) : ≥ 0.96
额定效率 (η) : $\geq 95\%$
防护等级 (IP) : IP65
冷却方式 (CL.M.) : IC3W7
安装方式 (Mtd.) : IMB3
绝缘等级 (IC) H
额定转速 (n) : 141 rpm

球磨机永磁电机系统优势

Advantages of ball mill permanent magnet motor system



设备可靠性提高, 根治漏油等因减速机、液耦故障带来的停机困扰

Improved equipment reliability, addressing downtime issues caused by gearbox and hydraulic coupling failures such as oil leakage



消除减速机自身传动效率损失、效率下降问题

Eliminate the problem of transmission efficiency loss and efficiency decline of the reducer itself



带料启动性能优越, 重载柔性启停

Superior start-up performance with materials, flexible start stop for heavy loads



优化结构, 减小体积

Optimize the structure and reduce the volume

应用案例

Application Cases



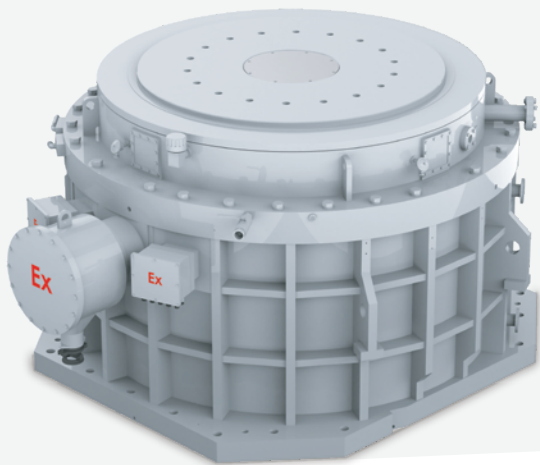
改造前 Before renovation



改造后 After renovation

TLFB系列立磨专用永磁同步变频电动机

TLFB series permanent magnet synchronous variable frequency motor for vertical grinding



技术参数 Technical Data

功率范围 (P) : 560-6000kW
额定电压 (U) : 6/10kV
功率因数 (cosφ) : ≥0.96
额定效率 (η) : ≥97%
防护等级 (IP) : IP65
冷却方式 (CL.M.) : IC3W7
安装方式 (Mtd.) : IMV2
绝缘等级 (IC) H
额定转速 (n) : 40 rpm

立磨变频电机系统优势

Advantages of ball mill permanent magnet motor system



无齿轮传动, 无减速机磨
No gear transmission, no gearbox grinding



纯直驱设计, 无需外接油站系统
Pure direct drive design, no need for external oil station system



占地面积小
compact footprint



节能效率高, 能效提升10%-20%
High energy-saving efficiency, with a 10% -20% increase in energy efficiency

应用案例

Application Cases



改造前 Before renovation



改造后 After renovation

TPYM系列浮选机专用永磁直驱同步电机

TPYM Series Special Permanent Magnet Direct Drive Synchronous Motor for Flotation Machine



技术参数 Technical Data

功率范围 (P) : 30-1000kW
额定电压 (U) : 380V/3kV/6kV/10kV
功率因数 (cosφ) : ≥ 0.97
额定效率 (η) : $\geq 96\%$
防护等级 (IP) : IP55
冷却方式 (CL.M.) : IC416/IC3W7
安装方式 (Mtd.) : IMV1/IMV2
绝缘等级 (IC) H
转速范围 (n) : ≤ 200 rpm

浮选机系统优势

Advantages of Flotation Machine System



改造便利, 2-3日内可完成现场施工

Convenient renovation, on-site construction can be completed within 2-3 days



节能率可达30%

Energy saving rate can reach 30%



设备可靠性提高, 根治漏油等因减速机、液耦故障带来的停机困扰

Improve equipment reliability, and eliminate downtime caused by faults such as oil leakage in reducers and fluid couplings

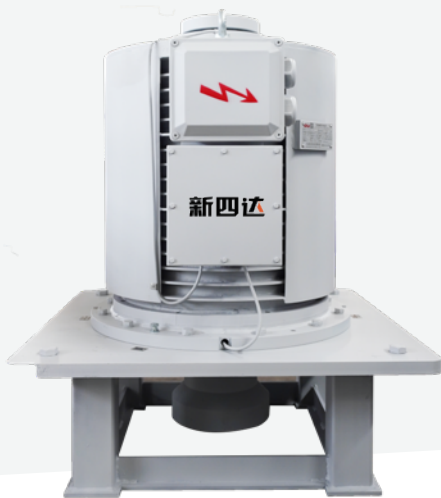
应用案例

Application Cases



TPYM系列搅拌机永磁直驱同步电机

TPYM Series Mixer Direct-Drive Permanent Magnet Synchronous Motor



技术参数 Technical Data

功率范围 (P) : 30-1000kW
额定电压 (U) : 380V/3kV/6kV/10kV
功率因数 (cosφ) : ≥0.97
额定效率 (η) : ≥96%
防护等级 (IP) : IP55
冷却方式 (CL.M.) : IC416/IC3W7
安装方式 (Mtd.) : IMV1/IMV2
绝缘等级 (IC) H
转速范围 (n) : ≤300 rpm

搅拌机永磁电机系统优势

Advantages of Permanent Magnet Motor System for Mixers



高效节能: 省去减速机、皮带传动损耗, 综合节电 15%-30%, 降碳减耗。
High efficiency and energy saving, low carbon and consumption reduction.



低速大转矩, 启动平稳、无冲击; 适合浆料、粉体、腐蚀性物料搅拌, 搅拌均匀度更高, 杜绝闷机、堵转。
Low speed & high torque, smooth and shock-free startup.



免维护: 无皮带磨损、无减速机漏油换油, 故障点少, 运维成本大幅降低。
Maintenance-free, greatly reduced O&M costs.



恶劣工况适配: 可防爆、防腐、防尘, 适配化工腐蚀、有色及电池粉尘环境。
Harsh Condition Adaptability: Suitable for chemical corrosion, non-ferrous and battery dust environments.

应用案例

Application Cases



TYPD系列皮带机专用永磁电机

TYPD series belt conveyor dedicated permanent magnet motor



技术参数 Technical Data

功率范围 (P) : 30-2500kW
额定电压 (U) : 380V/660V/1140V/6kV/10kV
功率因数 (cosφ) : ≥0.96
额定效率 (η) : ≥96%
防护等级 (IP) : IP65
冷却方式 (CL.M.) : IC416/IC3W7
安装方式 (Mtd.) : IMB3
绝缘等级 (IC) H
额定转速 (n) : 90 rpm

皮带机系统优势

Advantages of belt conveyor system



消除减速机自身传动效率损失带来的系统效率下降问题

Eliminating the problem of system efficiency decline caused by the loss of transmission efficiency of the reducer itself



带料启动性能优越, 重载柔性启停

Superior start-up performance with materials, flexible start stop for heavy loads



根据不同输送量要求, 可通过调整电机转速实现, 设备运行更节能

According to different conveying capacity requirements, the motor speed can be adjusted to achieve more energy-efficient operation of the equipment



满足IE5最高能效标准

Meet the highest energy efficiency standard of IE5

应用案例

Application Cases



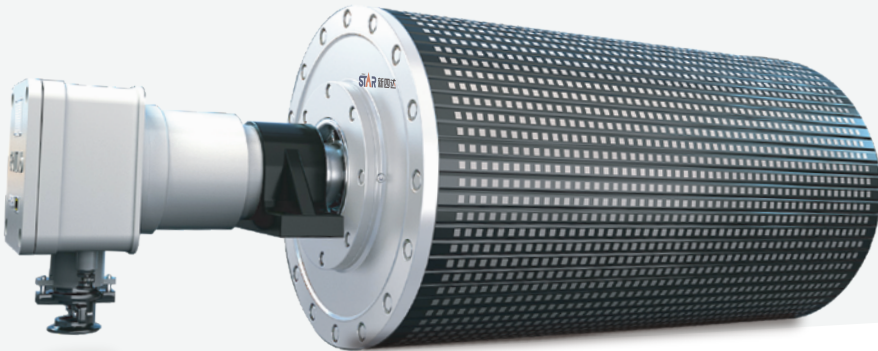
改造前 Before renovation



改造后 After renovation

STYB系列带式输送机专用外转子永磁同步变频电机

STYB belt conveyor dedicated external rotor permanent magnet synchronous variable frequency motor



技术参数 Technical Data

功率范围(P):7.5-3000kW
额定电压(U):380V/6kV/10kV
功率因数(cosφ):≥0.97
额定效率(η):≥96%
防护等级(IP):IP65
冷却方式(CL.M.):IC3W7/IC416
转速范围(SR):2.5-5m/s
最大带宽(Max.B):2200mm

带式输送机系统优势

Advantages of Belt Conveyor System



无齿轮直驱, 无中间传动环节
No gear direct drive, no intermediate transmission link



可以满载启动
Can start at full load



便于集中控制, 可实现无人值守
Convenient for centralized control and capable of achieving unmanned operation



占地面积小, 可减少70%占地空间
Small footprint, can reduce 70% of the occupied space

应用案例

Application Cases



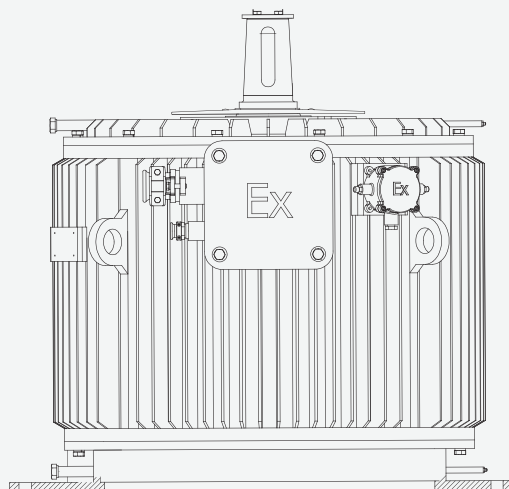
改造前 Before renovation



改造后 After renovation

TYBSL系列冷却塔风机永磁直驱电机

TYBSL series cooling tower fan permanent magnet direct drive motor



技术参数 Technical Data

功率范围 (P) : 22-1000kW

额定电压 (U) : 380V

功率因数 ($\cos\phi$) : ≥ 0.97

额定效率 (η) : $\geq 95\%$

防护等级 (IP) : IP67

冷却方式 (CL.M.) : IC410/IC3W7

安装方式 (Mtd.) : IMV1/IMV2

绝缘等级 (IC) H

转速范围 (n) : 0-200 rpm

冷却塔风机系统优势

Advantages of cooling tower fan system



高功率因数、高输出效率, 输出效率达95%左右, 发热量低, 具有较大节能降耗优势

High power factor, high output efficiency



输出直接加负载 (风机), 传输结构简单, 降低设备故障率

Directly adding load (fan) to output, simple transmission structure, reducing equipment failure rate



节能效果明显提升

Significant improvement in energy-saving effect



可做水轮电机方案

Can be used as a hydroelectric motor solution

应用案例

Application Cases



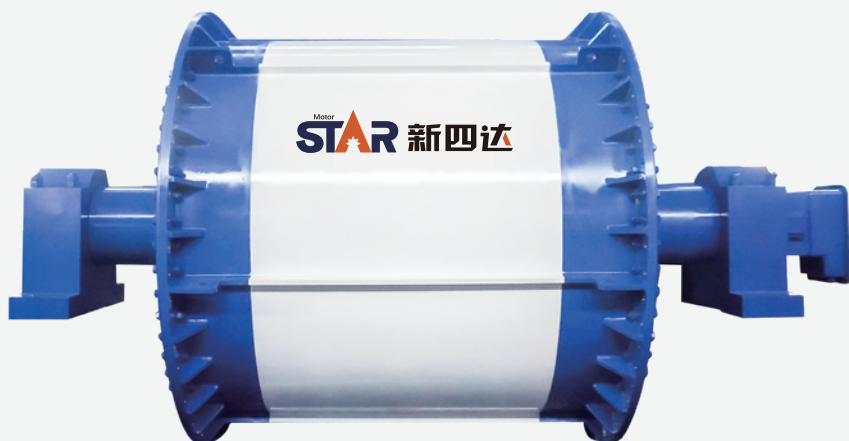
改造前 Before renovation



改造后 After renovation

STYG系列提升机永磁直驱变频同步电机

STYG series hoist permanent magnet direct-drive variable frequency synchronous motor



技术参数 Technical Data

功率范围 (P) : 400-2500kW
额定电压 (U) : 6/10kV
功率因数 (cosφ) : ≥0.96
额定效率 (η) : ≥95%
防护等级 (IP) : IP65
冷却方式 (CL.M.) : IC3W7
安装方式 (Mtd.) : IMB3
绝缘等级 (IC) H
转速范围 (n) : 0-50 rpm

内置式提升机系统优势

Advantages of built-in elevator system



结构简单, 散热均匀, 降低温度梯度, 减少热应力, 且制造工艺简便, 流体阻力小, 利于冷却液稳定流动。
Simple structure, uniform heat dissipation



采用转子模块设计, 磨具制作周期短。
Adopting a rotor module design, the production cycle of grinding tools is short.



采用了分布式短距绕组, 大幅降低谐波。
Distributed short-distance windings have been adopted, significantly reducing harmonics.



优化机体结构, 大幅提升了机壳整体结构强度。
Optimizing the body structure has significantly improved the overall structural strength of the casing.

应用案例

Application Cases



TYPKK系列高压通用三相永磁同步变频电机

TYPKK high-voltage universal three-phase permanent magnet synchronous variable frequency motor



技术参数 Technical Data

功率范围 (P) : 355-4000kW
额定电压 (U) : 6/10kV
功率因数 ($\cos\phi$) : ≥ 0.96
额定效率 (η) : $\geq 95\%$
防护等级 (IP) : IP55
冷却方式 (CL.M.) : IC611
安装方式 (Mtd.) : IMB3
绝缘等级 (IC) H
转速范围 (n) : 750/1000/1500 rpm

永磁电机系统优势

Advantages of permanent magnet motor system



高效节能
High Efficiency and Energy Saving



运行稳定可靠
Stable and reliable operation



箱形结构设计, 重量轻刚度好。
Box shaped structure design, light weight and good rigidity.



启动性能优越
Superior startup performance

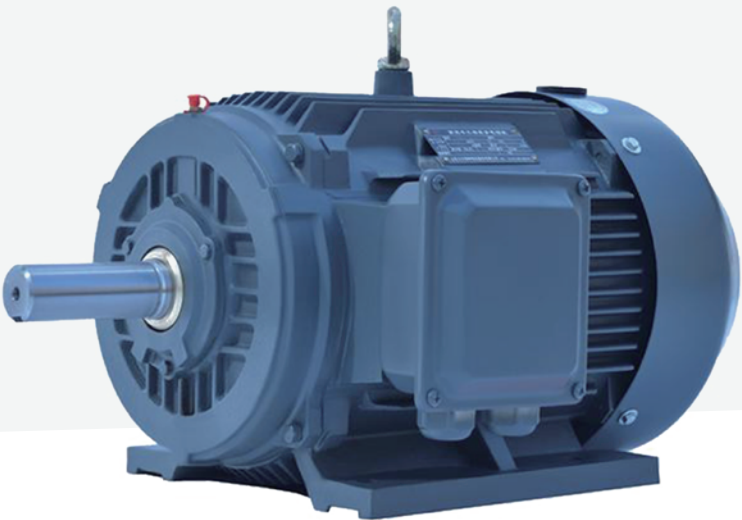
应用案例

Application Cases



TYP系列通用三相永磁同步变频电机

TYP universal three-phase permanent magnet synchronous variable frequency motor



技术参数 Technical Data
功率范围 (P) : 55-315kW
额定电压 (U) : 380V
功率因数 (cosφ) : ≥0.97
额定效率 (η) : ≥96%
防护等级 (IP) : IP65
冷却方式 (CL.M.) : IC411/410
安装方式 (Mtd.) : IMB3
绝缘等级 (IC) H
转速范围 (n) : 1500 rpm

永磁电机系统优势

Advantages of permanent magnet motor system



极致节能, 运行成本显著降低
Extremely energy-efficient, significantly reducing operating costs



调速精准, 适配多元工况需求
Accurate speed regulation, suitable for diverse working conditions



启动与运行性能双优, 稳定性突出
Excellent startup and runtime performance, outstanding stability



集成性强, 适配多场景应用
Strong integration, suitable for multi scenario applications

应用案例

Application Cases



永磁电机项目案例

Case Study of Permanent Magnet Motor Project



边缘传动球磨机-1400kW
Henan Songji Cement -1400kW



边缘传动球磨机-1600kW
Nanyang Xichuan Cement -1600kW



立式辊磨机-630kW
Tongchuan Jinyu vertical mill -630kW



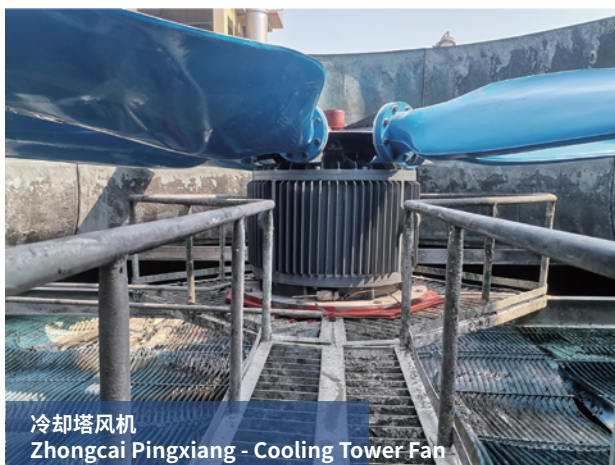
超细粉磨-选粉机
Ultra fine grinding -
powder selection machine



窑主电机-560kW
Zibo Mountain Aluminum Kiln Main Motor



高效离心式选粉机-250kW
Pingxiang Zhongcai Cement Powder Selection Machine



冷却塔风机
Zhongcai Pingxiang - Cooling Tower Fan

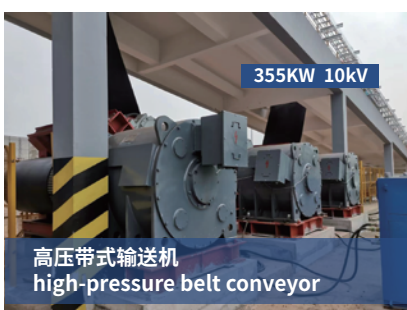


济源中联水泥-冷却塔风机
Jiyuan Zhonglian Cement
- Cooling Tower Fan



高效离心式选粉机
Wuxuan Huarun Cement

港口长距离带式输送机
port material handling conveyor



高压带式输送机
high-pressure belt conveyor



长距离带式输送机-belt conveyor system



斗式提升机-bucket elevator



复合肥旋转窑-200kW
Compound Fertilizer Rotary Kiln - 200 kW



泥浆泵电机-1000kW/10kV
Mud Pump Motor - 1000kW/10kV



五缸单作用隔膜泵-1800kW
5-cylinder single-acting diaphragm pump - 1800kW