



ZONHOW
中豪电动

ZONHOW ELECTRIC
TECHNOLOGIES



杭州中豪电动科技有限公司
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Official Website



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杭州中豪电动科技有限公司
HANGZHOU ZONHOW ELECTRIC TECHNOLOGIES Co., Ltd.



ZONHOW
中豪控股

中正豪迈 无限卓越

这是一支专业的团队。

多年致力于轴向磁通电机领域，
精耕细作，只为用科技“驱动”未来。

这是一支专注的团队。

我们坚信，只有专注，才能做好产品。

这是一支有梦想的团队。

为一个共同的梦想，凝聚在一起，
坚定、勇敢、无所畏惧，
一路上披荆斩棘，追求无限卓越。

We are a professional team.

Committed to the field of axial flux permanent magnet for many years,
Intensive cultivation is only to "drive" the future with technology.

We are a dedicated team.

We firmly believe that only concentration can make a good product.

We have a dream.

To unite together for a common dream,
Firm, brave, fearless,
Overcoming obstacles and pursuing infinite excellence all the way.

Application Field 应用领域



新能源汽车
New Energy Vehicle



电动环卫车
Electric Sanitation Vehicle



国防军工
National Defense Industry



电动船
Electric Boat



电梯
Elevator



航空航天
Aerospace



发电机
Generator



汽车增程器
Vehicle Range Extender



轨道交通
Rail Transit



电动矿卡
Electric Mining Truck



工程机械
Engineering Machinery



工业自动化
Industrial Automation

典型案例 Typical Case



纯电动洗扫车
Pure Electric Sweeper



纯电动2座固定翼飞机
Pure Electric Two Seats Fixed Wing Aircraft



增程式巴士
Extended Bus



5G通信基站应急电源站/军用发电机组
5G Communication Base Station Emergency Power Station / Military Generator Set



军用6轮战场无人车
Military 6-wheel Battlefield Unmanned Vehicle

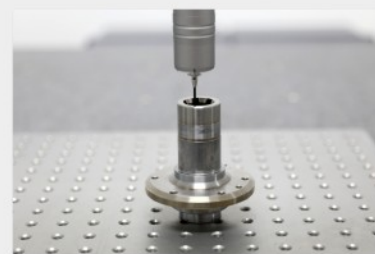
Intelligent Manufacturing 智能制造

国内首条全自动轴向磁通电机装配检测生产线。
The first full-automatic production line of axial flux permanent in China.



精密检测 Precision Inspection

公司拥有高精度产品检测能力，建有蔡司三坐标、振动试验平台、测功平台等高规格检测实验室，确保产品质量。
We possess the ability of high-precision production testing, have built high-standard testing laboratories such as Zeiss coordinate system, vibration test platform and dynamometer platform to ensure the quality.



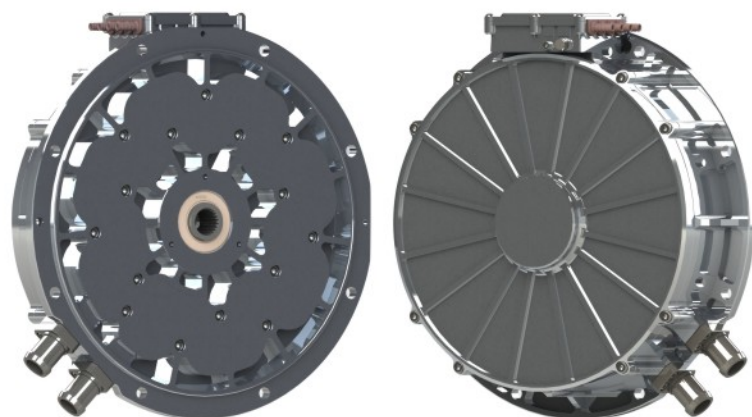
R & D Capabilities 研发能力

公司拥有一支年轻化、高学历、专业化的研发团队，团队拥有丰富的科研和生产实战经验，凭借在轴向磁通电机领域多年的潜心研究，拥有诸多核心技术知识产权，获得了各类发明、软件著作权、国际PCT专利等近百项。

We have a young, highly educated and professional R & D team with rich experience in scientific research and production. With years of dedicated research in the field of axial flux motor, we have had many core technology intellectual property rights, and have obtained patent nearly 100 including invention, software copyright and international PCT.



12kW/20kW 发电机 Generator



产品特点 Product Features

高效节能: Energy Efficient

发电效率达94%以上，达到一级能效标准，节能效果明显
High efficiency and energy saving: the power generation efficiency is over 94%, reaching the first-class energy efficiency standard, and the energy saving effect is obvious

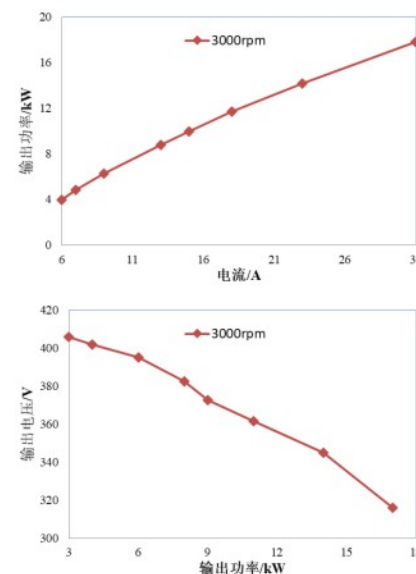
超薄超轻: Ultra-thin & Ultra-light

结构扁平，整机轴向尺寸仅为82.5mm，重量仅为23kg，极致轻量化
The structure is flat, the axial size of the whole machine is only 82.5mm, and the weight is only 23kg, which is extremely lightweight

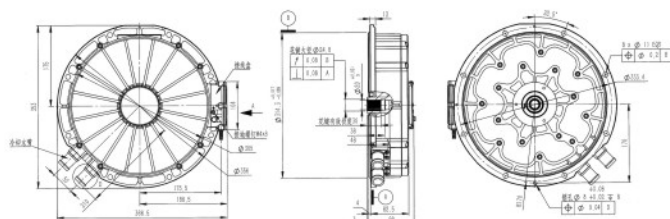
产品参数 Product Parameters

产品型号 Product Model	TZ245SZH120540E	TZ245SZH200540E
额定发电电压/VAC Rated power generation voltage	380	380
单相发电电压 VAC Single generating voltage	9-14	9-14
额定发电功率 kW Rated power generation	12	20
额定转速 rpm Rated Speed	3000	3600
峰值发电功率 kW Peak generating power	20	25
峰值转速 rpm Peak Speed	5000	5000
最大发电电流 Maximum power generation current	≤35	≤40
效率 Efficiency	≥94%	≥94%
防护等级 Protection Level	IP65	IP65
冷却方式 Cooling Method	Water cooling 水冷	Water cooling 水冷
流量 L/min Flow	12	12
电机重量 kg Motor Weight	23kg	23kg
电机尺寸 mm Motor Size	φ315*82.5	φ315*82.5

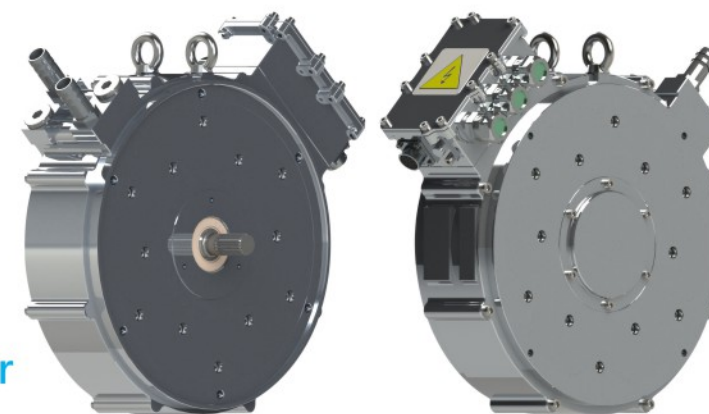
产品特性 Product Characteristics



尺寸结构 Size Structure



30kW 增程器发电机 Range Extender Generator



产品特点 Product Features

高效节能: Energy Efficient

发电效率最高可达96%以上，高效（效率>85%）面积达90%以上
The maximum power generation efficiency can reach more than 96%, and the high efficiency (efficiency>85%) area can reach more than 90%

超薄超轻: Ultra-thin & Ultra-light

结构扁平，轴向尺寸短，重量轻，有效解决整车的空间布置紧凑问题
The structure is flat, the axial size is short, and the weight is light, which effectively solves the problem of compact space layout

低速高扭: Low Speed & High Torque

其效率分布与发动机的万有特性完美匹配，提升增程系统的节油率
Its efficiency distribution is perfectly matched with the universal characteristics of the engine, which improves the fuel-saving rate of the extended range system

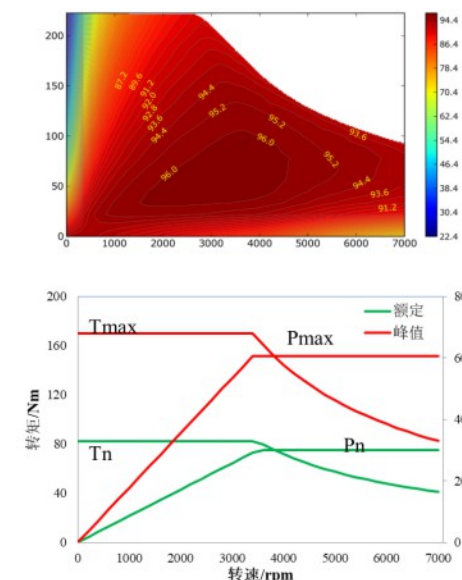
高度集成: Highly Integrated

盘式的转子结构可代替飞轮，实现增程器的深度集成，极致轻量化
The disc rotor structure can replace the flywheel to realize the deep integration of the extender and extremely lightweight

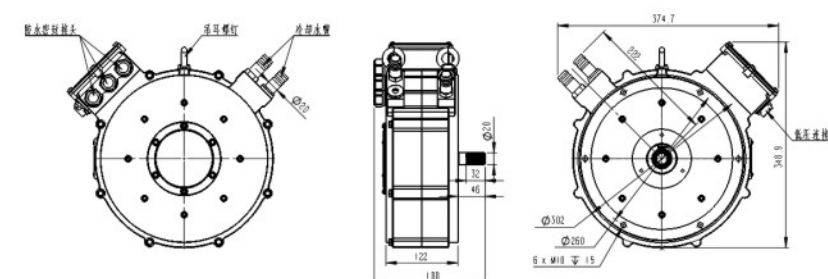
产品参数 Product Parameters

产品型号 Product Model	TZ235XSZH300540B
电压平台VDC Voltage Platform	540 (兼容340)
工作电压范围 VDC Operating Voltage Range	420-650VDC
额定功率 kW Rated Power	30
峰值功率 kW Peak Power	60
额定转速 rpm Rated Speed	3500
峰值转速 rpm Peak Speed	7000
额定扭矩 Nm Rated Torque	82
峰值扭矩 Nm Peak Torque	170
最高效率 % Maximum Efficiency	>96
防护等级 Protection Level	IP67
冷却方式 Cooling Method	水冷 Water cooling
流量 L/min Flow	12
电机重量 kg Motor Weight	35
电机尺寸 mm Motor Size	Φ304*120

产品特性 Product Characteristics



尺寸结构 Size Structure



60kW 混动电机 HYBRID MOTOR



高效节能
Energy Efficient



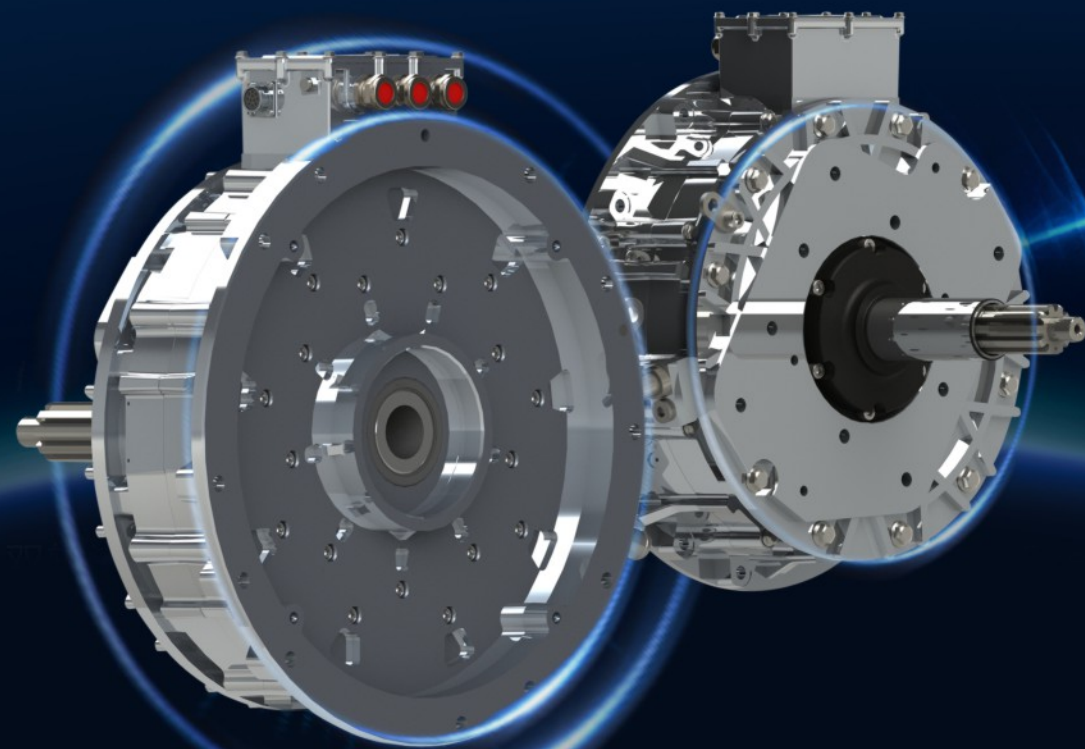
超薄超轻
Ultra-thin &
Ultra-light



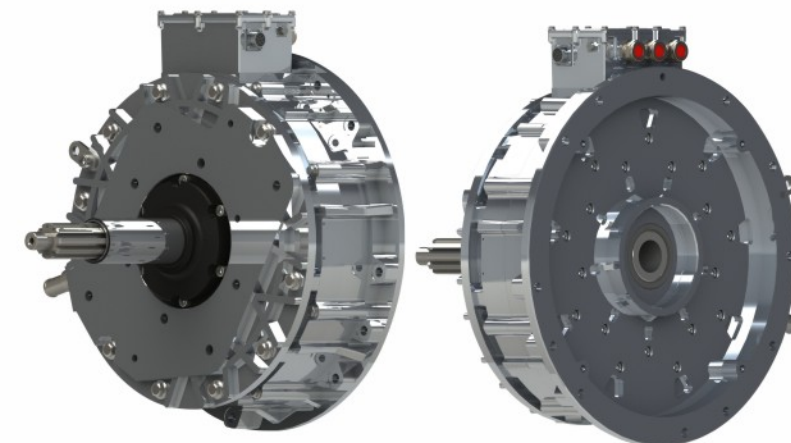
低速高扭
Low Speed &
High Torque



模块集成
Module
Integration



60kW 混动电机 Hybrid Motor



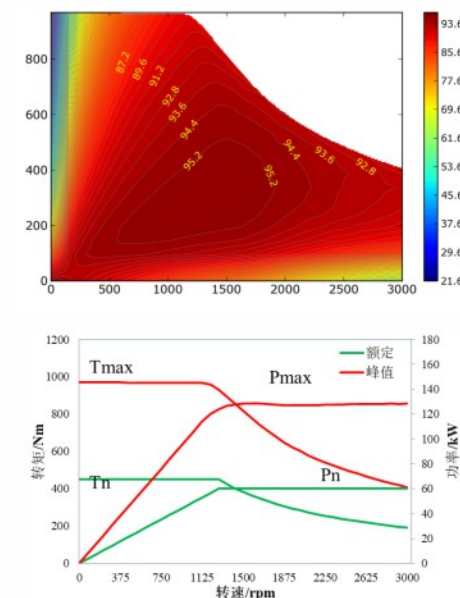
产品特点 Product Features

- 高效节能:** 效率最高可达95%以上, 高效 (效率>85%) 面积达90%以上
The maximum power generation efficiency can reach more than 95%, and the high efficiency (efficiency>85%) area can reach more than 90%
- 超薄超轻:** 结构扁平, 轴向尺寸短, 重量轻, 满足车辆轻量化需求, 有效解决混动系统的纵置空间紧凑问题
The structure is flat, the axial size is short, and the weight is light, which meets the needs of lightweight vehicles and effectively solves the problem of compact vertical space for hybrid systems
- 低速高扭:** 其运行特性与柴油发动机的万有特性完美匹配, 提升混动系统的节油率
Its operating characteristics are perfectly matched with the universal characteristics of diesel engines, improving the fuel-saving Rate of the hybrid system
- 模块集成:** 模块化的产品设计, 拓展性强, 丰富驱动系统的控制模式, 增强其容错能力
Modular product design, strong expandability, enrich the control mode of the drive system, and enhance its fault tolerance

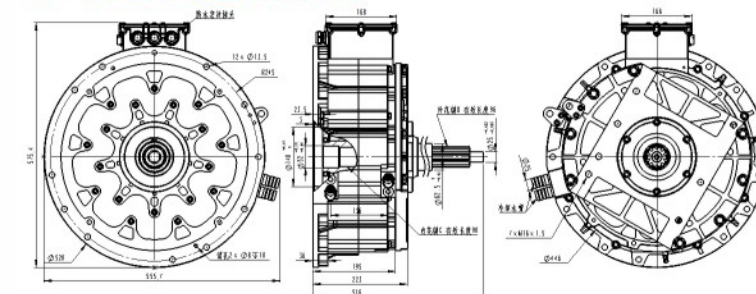
产品参数 Product Parameters

产品型号 Product Model	TZ360XSZH600540I
电压平台 VDC Voltage Platform	540 (兼容340)
工作电压范围 VDC Operating Voltage Range	420-650VDC
额定功率 kW Rated Power	60
峰值功率 kW Peak Power	110
额定转速 rpm Rated Speed	1300
峰值转速 rpm Peak Speed	3000
额定扭矩 Nm Rated Torque	450
峰值扭矩 Nm Peak Torque	900
最高效率 % Maximum Efficiency	>95
防护等级 Protection Level	IP67
冷却方式 Cooling Method	水冷 Water cooling
流量 L/min Flow	25
电机重量 kg Motor Weight	122
电机尺寸 mm Motor Size	Φ460*195

产品特性 Product Characteristics

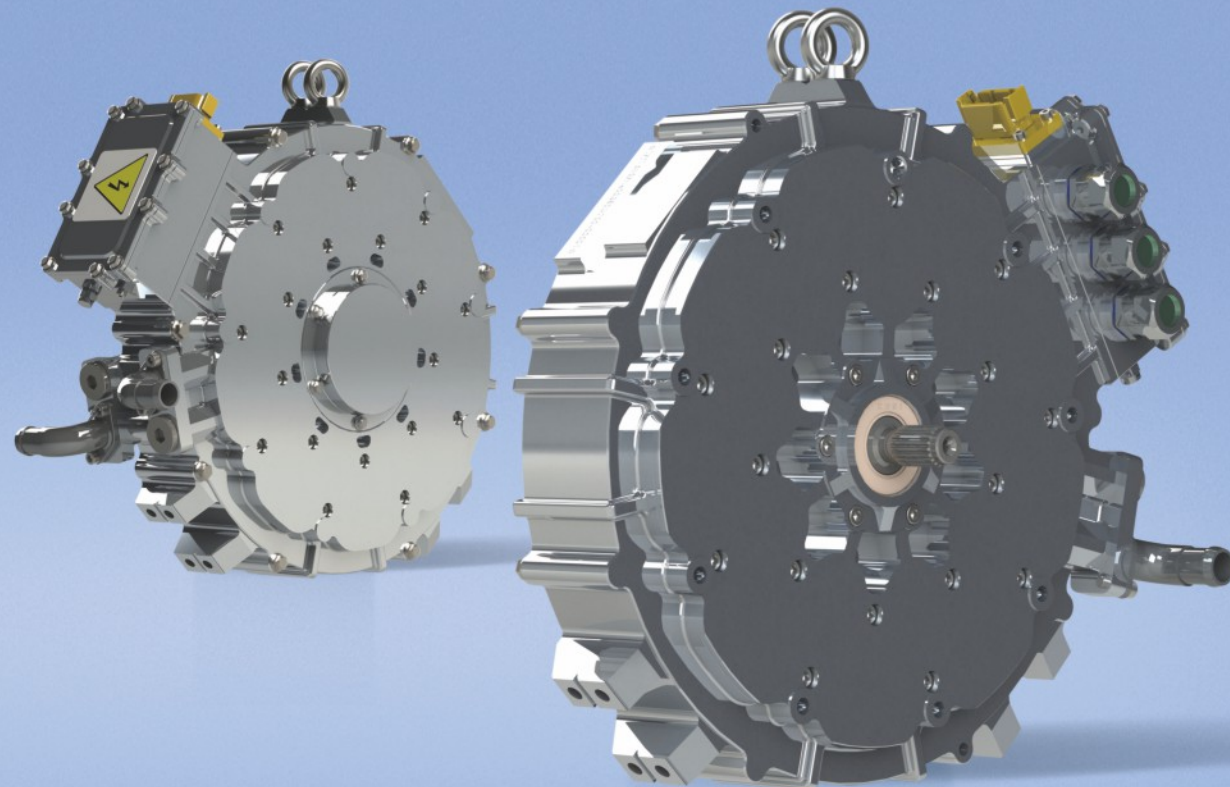


尺寸结构 Size Structure



60kW 增程器发电机

RANGE EXTENDER GENERATOR



60kW 增程器发电机

Range Extender Generator



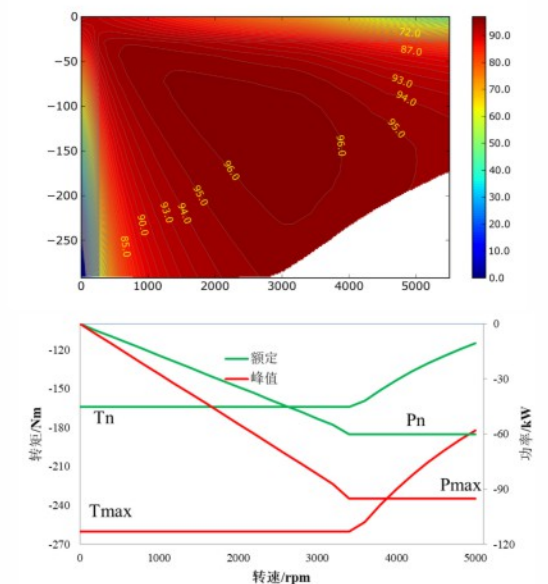
产品特点 Product Features

高效节能: Energy Efficient	发电效率最高可达96%以上, 高效 (效率>85%) 面积达90%以上 The maximum power generation efficiency can reach more than 96%, and the high efficiency (efficiency>85%) area can reach more than 90%
超薄超轻: Ultra-thin & Ultra-light	结构扁平, 轴向尺寸短, 重量轻, 有效解决整车的空间布置紧凑问题 The structure is flat, the axial size is short, and the weight is light, which effectively solves the problem of compact space layout
低速高扭: Low Speed & High Torque	其效率分布与发动机的万有特性完美匹配, 提升增程系统的节油率 Its efficiency distribution is perfectly matched with the universal characteristics of the engine, which improves the fuel-saving rate of the extended range system
高度集成: Highly Integrated	盘式的转子结构可代替飞轮, 实现增程器的深度集成, 极致轻量化 The disc rotor structure can replace the flywheel to realize the deep integration of the extender and extremely lightweight

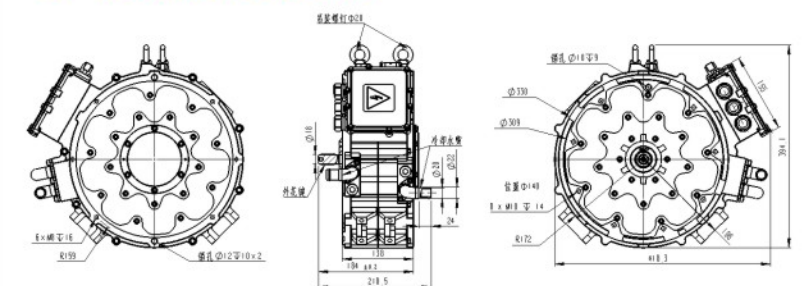
产品参数 Product Parameters

产品型号 Product Model	TZ275XSZH600540E
电压平台 VDC Voltage Platform	540 (兼容340)
工作电压范围 VDC Operating Voltage Range	420-650VDC
额定功率 kW Rated Power	60
峰值功率 kW Peak Power	100
额定转速 rpm Rated Speed	3500
峰值转速 rpm Peak Speed	5000
额定扭矩 Nm Rated Torque	164
峰值扭矩 Nm Peak Torque	260
最高效率 % Maximum Efficiency	>96
防护等级 Protection Level	IP67
冷却方式 Cooling Method	水冷 Water cooling
流量 L/min Flow	12
电机重量 kg Motor Weight	48
电机尺寸 mm Motor Size	Φ344*130

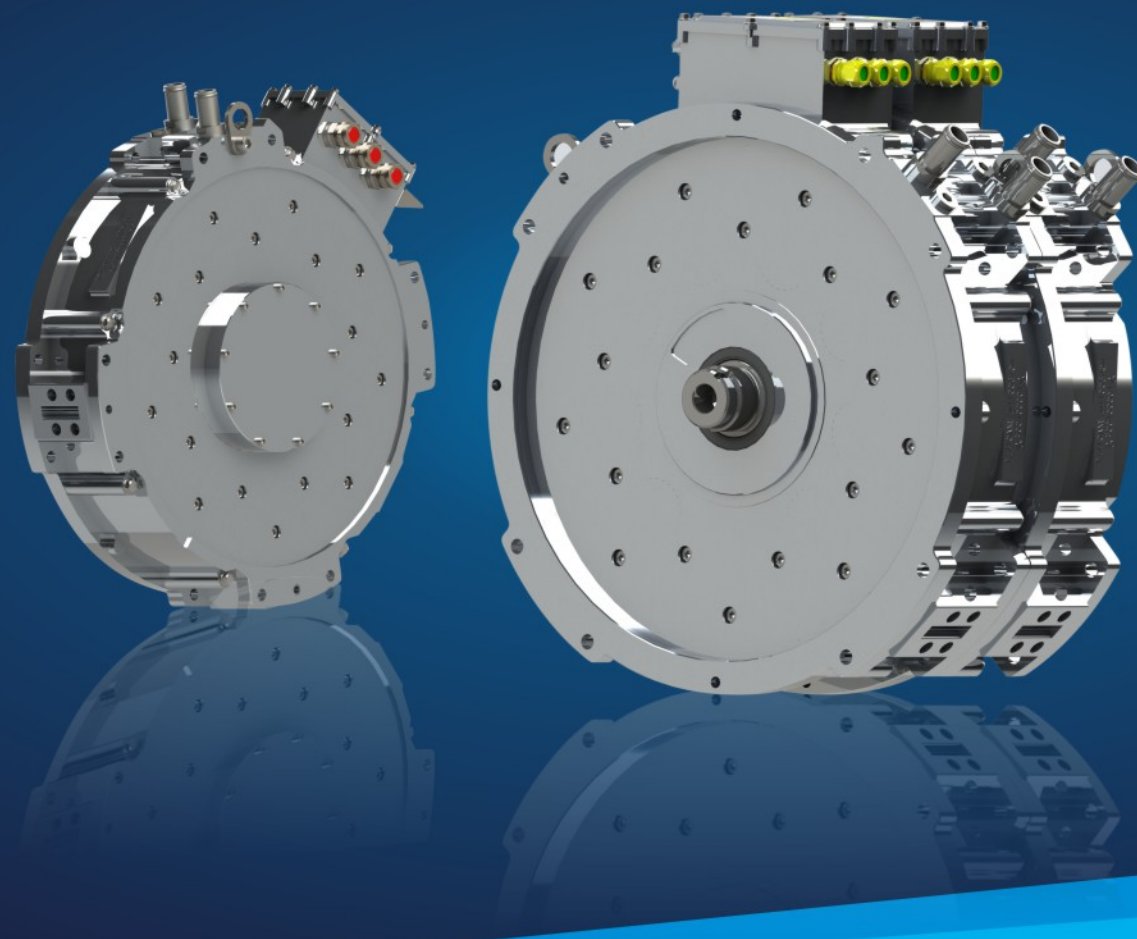
产品特性 Product Characteristics



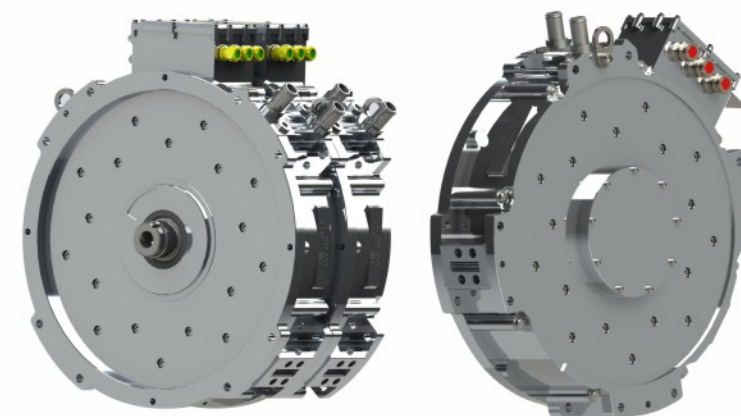
尺寸结构 Size Structure



110kW 驱动电机 DRIVE MOTOR



110kW 驱动电机 Drive Motor



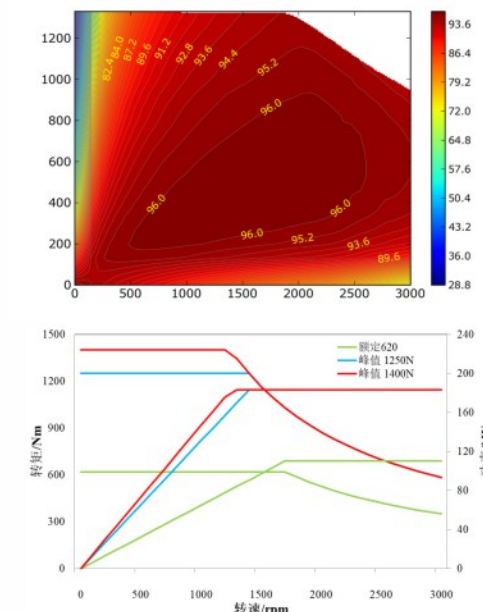
产品特点 Product Features

高效节能: Energy Efficient	效率最高可达96%以上, 高效 (效率>85%) 面积达90%以上 The maximum power generation efficiency can reach more than 96%, and the high efficiency (efficiency>85%) area can reach more than 90%
超薄超轻: Ultra-thin & Ultra-light	结构扁平, 轴向尺寸短, 重量轻, 满足车辆轻量化需求 Flat structure, short axial size, light weight, meeting the needs of lightweight vehicles
低速高扭: Low Speed & High Torque	产品工作特性与重卡车辆的动力需求十分匹配, 能够提供十足的动力性 The working characteristics of the product match the power requirements of heavy-duty trucks, and can provide full power
模块集成: Module Integration	模块化的产品设计, 拓展性强, 丰富驱动系统的控制模式, 增强其容错能力 modular product design, strong expansibility, enrich the control mode of the drive system, and enhance its fault tolerance

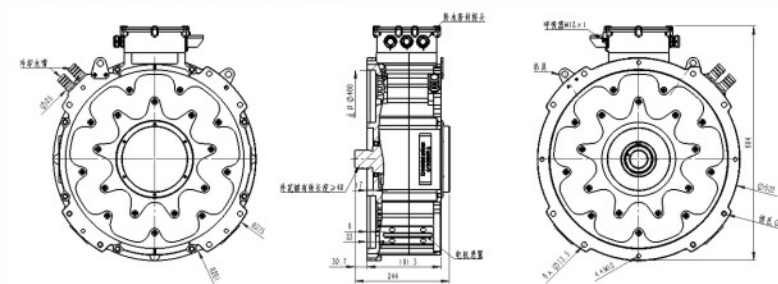
产品参数 Product Parameters

产品型号 Product Model	TZ410XSZH1100540I
电压平台 VDC Voltage Platform	540 (兼容618)
工作电压范围 VDC Operating Voltage Range	420-650VDC
额定功率 kW Rated Power	110
峰值功率 kW Peak Power	180
额定转速 rpm Rated Speed	1700
峰值转速 rpm Peak Speed	3000
额定扭矩 Nm Rated Torque	620
峰值扭矩 Nm Peak Torque	1400
最高效率 % Maximum Efficiency	>96
防护等级 Protection Level	IP67
冷却方式 Cooling Method	水冷 Water cooling
流量 L/min Flow	25
电机重量 kg Motor Weight	142
电机尺寸 mm Motor Size	Φ494*191

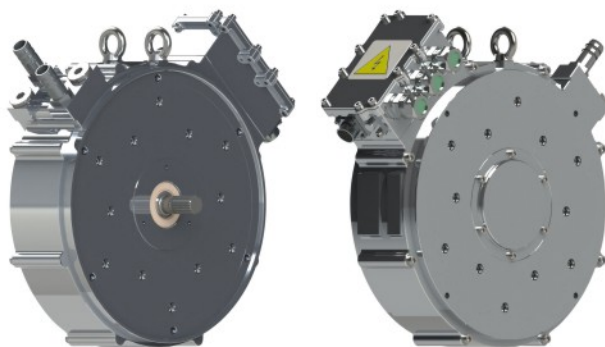
产品特性 Product Characteristics



尺寸结构 Size Structure



45kW 增程器发电机 Range Extender Generator



产品特点 Product Features

高效节能: Energy Efficient

发电效率最高可达96%以上, 高效 (效率 > 85%) 面积达90%以上
The maximum power generation efficiency can reach more than 96%, and the high efficiency (efficiency > 85%) area can reach more than 90%

超薄超轻: Ultra-thin & Ultra-light

结构扁平, 轴向尺寸短, 重量轻, 有效解决整车的空间布置紧凑问题
The structure is flat, the axial size is short, and the weight is light, which effectively solves the problem of compact space layout

低速高扭: Low Speed & High Torque

其效率分布与发动机的万有特性完美匹配, 提升增程系统的节油率
Its efficiency distribution is perfectly matched with the universal characteristics of the engine, which improves the fuel-saving rate of the extended range system

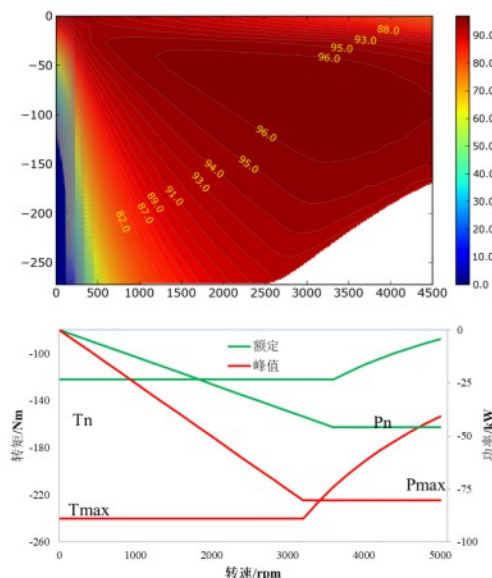
高度集成: Highly Integrated

盘式的转子结构可代替飞轮, 实现增程器的深度集成, 极致轻量化
The disc rotor structure can replace the flywheel to realize the deep integration of the extender and extremely lightweight

产品参数 Product Parameters

产品型号 Product Model	TZ245XSZH450540A
电压平台 VDC Voltage Platform	540 (兼容340)
工作电压范围 VDC Operating Voltage Range	420-650VDC
额定功率 kW Rated Power	45
峰值功率 kW Peak Power	80
额定转速 rpm Rated Speed	3500
峰值转速 rpm Peak Speed	5000
额定扭矩 Nm Rated Torque	122
峰值扭矩 Nm Peak Torque	240
最高效率 % Maximum Efficiency	>96
防护等级 Protection Level	IP67
冷却方式 Cooling Method	水冷 Water cooling
流量 L/min Flow	12
电机重量 kg Motor Weight	40
电机尺寸 mm Motor Size	Φ314*130

产品特性 Product Characteristics



尺寸结构 Size Structure

