

2 Speed EV Transmission

EV Reducer



KEY BENEFITS

Performance & Efficiency Gain [Compared 2 speed and 1 speed e-axle]

- extension of drive range up 4% up to 8%
- Increased vehicle top speed
- Improvement of vehicle acceleration
- Improvement of gradeability
- Powershift enables seamless gearshift



KEY FEATURES

Type	2speed EV-Transmission (FF Type)
Max. Power	150 kW
Max. torque at axle	400 N.m
Max. speed	13,000 rpm
Gear ratio (1st / 2ND)	1:12 / 1:6
Dimension Incl. Housing	345 x 495 x 278 mm
Active length	180 ~ 200 mm

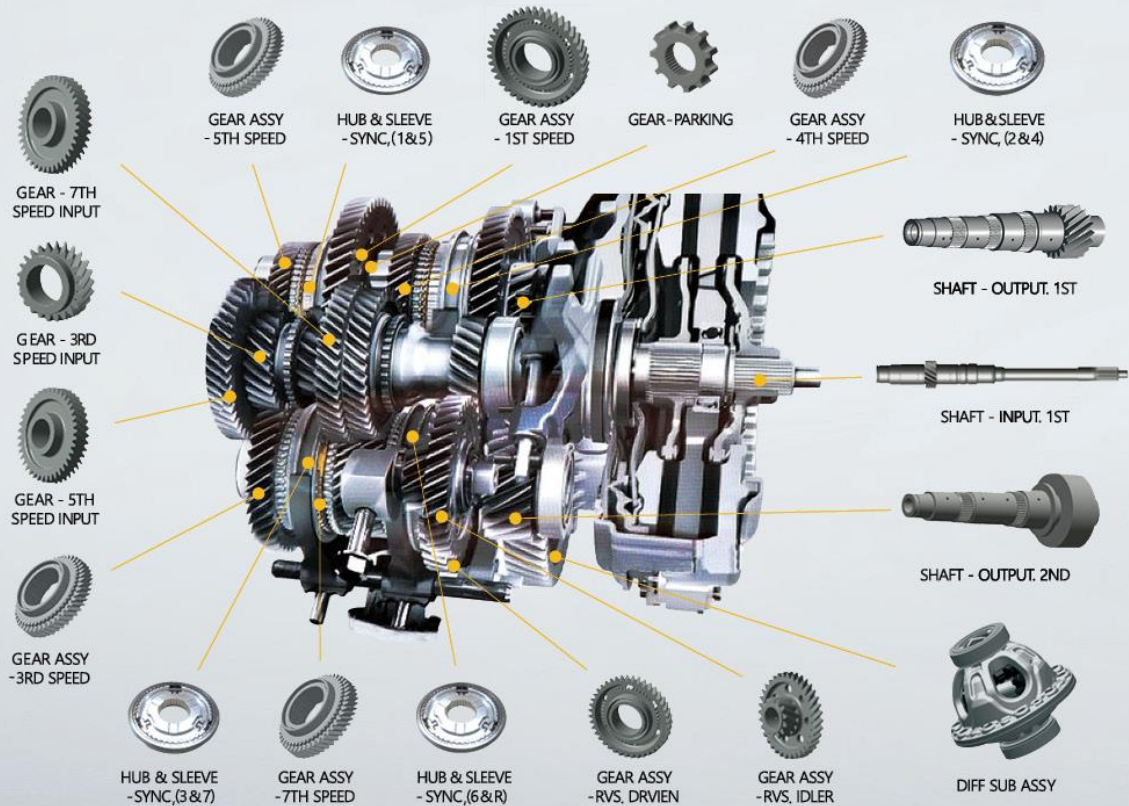
APPLICABLE VEHICLE

- Electric Vehicle
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker

7 Speed DCT GEAR SET



KEY BENEFITS

- Fully automated manufacturing line
- Applied fully auto-measuring system for function & gear tooth
- In gear grinding applied LNS(Low Noise Shifting) for low noise
- Applied gear honing for shafts : Improve gear quality & productivity

KEY FEATURES

Type	7 Speed Dual Dry Clutch Transmission (FF Type)
Max. Input Torque	220 ~ 340 Nm
Capability	1,050,000 Set / Year

APPLICABLE VEHICLE

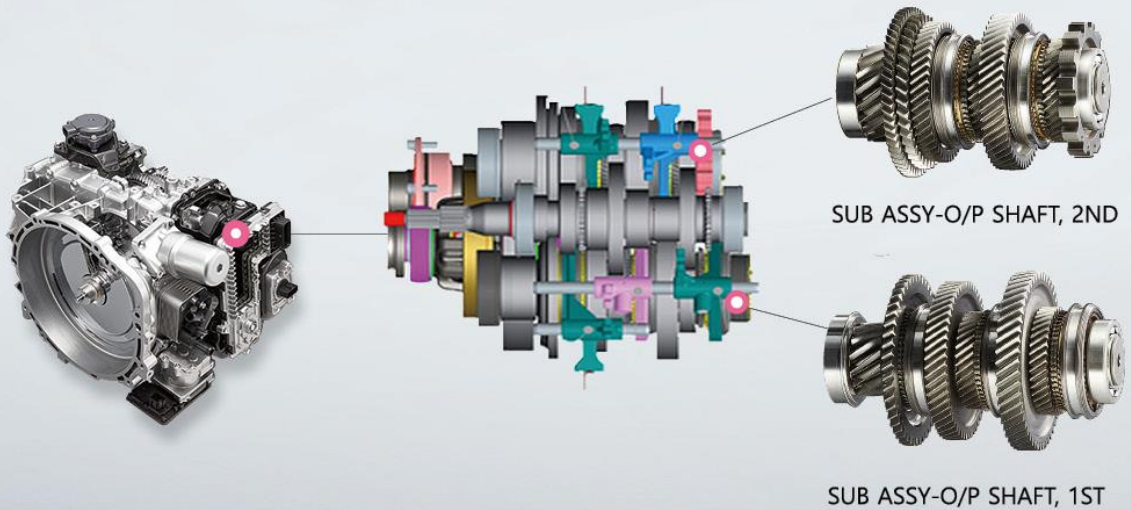
- Passenger Car (SONATA, i30, SPORTAGE, K5 etc)
- HEV, PHEV (ECO-Friendly Car)

APPLICABLE COMPANY

- Car Maker (Hyundai / KIA Motor Company), Gearbox Maker (Hyundai Transys)

DIC

8 Speed DCT GEAR SET



KEY BENEFITS

- Fully automated manufacturing line
- Applied fully auto-measuring system for function & gear tooth
- In gear grinding applied LNS (Low Noise Shifting) for low noise
- Applied gear honing for shafts : Improve gear quality & productivity

KEY FEATURES

Type	8 Speed Dual Wet Clutch Transmission (FF Type)
Max. Input Torque	480 Nm
Capability	260,000 Set / Year



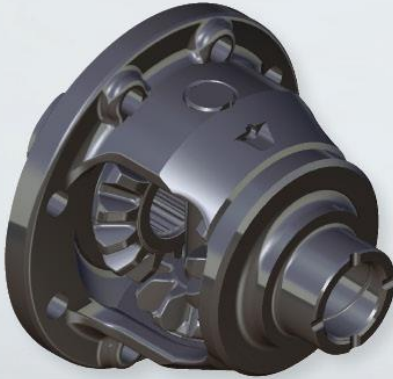
APPLICABLE VEHICLE

- Passenger Car (SORENTO, SONATA etc)

APPLICABLE COMPANY

- Car Maker (Hyundai / KIA Motor Company)
- Gearbox Maker (Hyundai Transys)

Differential Assy 2-PIN Type



KEY BENEFITS

- Compact and Low-Weight
- Structural Optimization by Customer's Requirement
- Competitive Cost
- Vibration & Noise Optimization

KEY FEATURES

Type	2 PINION
Pinion Quantity	2
Side Gear Quantity	4
Engine Torque	100 ~ 450 Nm
Function	Differential
Application	AT, MT, DCT, AMT, CVT, Reducer



APPLICABLE VEHICLE

- Passenger Car, SUV, CUV, MPV
- EV, HEV, PHEV, FCEV (ECO-Friendly Car)

APPLICABLE COMPANY

- Car Maker (Hyundai / KIA Motor Company)
- Gearbox Maker (Hyundai Transys)

Differential Assy 4-PIN Type



KEY BENEFITS

- Compact and Low-Weight
- Structural Optimization by Customer's Requirement
- Competitive Cost
- Vibration & Noise Optimization

KEY FEATURES

Type	4 PINION
Pinion Quantity	4
Side Gear Quantity	4
Engine Torque	100 ~ 450 Nm
Function	Differential
Application	AT, MT, DCT, AMT, CVT, Reducer



APPLICABLE VEHICLE

- Passenger Car, SUV, CUV, MPV
- EV, HEV, PHEV, FCEV (ECO-Friendly Car)

APPLICABLE COMPANY

- Car Maker (Hyundai / KIA Motor Company)
- Gearbox Maker (Hyundai Transys)

Electric Oil Pump

Power Electric Product



High Voltage Electric oil pump without controller

KEY BENEFITS

- Internal oil pump for high voltage system
- Compact and Low-Weight
- Water and dust Protect Ability
- Competitive Cost
- Effective motor cooling with oil
- Vibration & Noise Optimization
- EMI/EMC Certification

KEY FEATURES

Motor Type(Non-Controller)	BLAC Sensorless Type
Rated Torque	4.7 Nm
Max. Torque	12 Nm
Power Consumption	1.46 kW
Max. Pressure	16 bar
Volumetric Displacement	10.2 cc/rev
Max. Speed	4,000 rpm
Allowable Voltage	250 V
Allowable Temperature	-35~120 °C(ATF)

APPLICABLE VEHICLE

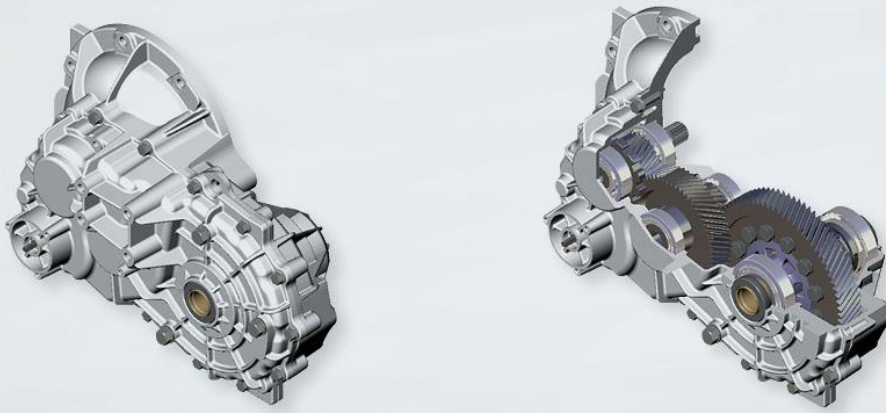
- Hybrid Electric Vehicle (Automatic Transmission)
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker (Stellantis), Gearbox Maker (Hyundai Transys)

EV FF Type Reducer

EV Reducer



KEY BENEFITS

- Compact and Low-Weight
- Effective Matching of e-Motor by CAE
- Structural Optimization by Customer's Requirement
- Suitable Functional and Durability Validation for EV
- Competitive Cost
- Vibration & Noise Optimization



KEY FEATURES

Type	FF Type
Max. Power	100 kW
Max. Torque	320 Nm
Max. speed	12,000 rpm
Gear Ratio	9.18
Center Distance	236 mm
Function	Reduction, Parking, Differential

APPLICABLE VEHICLE

- Electric Vehicle
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker

EV FR Type Reducer

EV Reducer



KEY BENEFITS

- Compact and Low-Weight
- Effective Matching of e-Motor by CAE
- Structural Optimization by Customer's Requirement
- Suitable Functional and Durability Validation for EV
- Competitive Cost
- Vibration & Noise Optimization



KEY FEATURES

Type	FR Type
Max. Power	100 kW
Max. Torque	320 Nm
Max. speed	12,000 rpm
Gear Ratio	2.185
Center Distance	81 mm
Function	Reduction, Parking

APPLICABLE VEHICLE

- Electric Vehicle
- Commercial Vehicle

APPLICABLE COMPANY

- Car Maker

EV FR Type Reducer

EV Reducer



KEY BENEFITS

- Compact and Low-Weight
- Effective Matching of e-Motor by CAE
- Structural Optimization by Customer's Requirement
- Suitable Functional and Durability Validation for EV
- Competitive Cost
- Vibration & Noise Optimization



KEY FEATURES

Type	FR Type
Max. Power	90 kW
Max. Torque	280 Nm
Max. speed	12,000 rpm
Gear Ratio	2.185
Center Distance	81 mm
Function	Reduction, Parking

APPLICABLE VEHICLE

- Electric Vehicle
- Commercial Vehicle

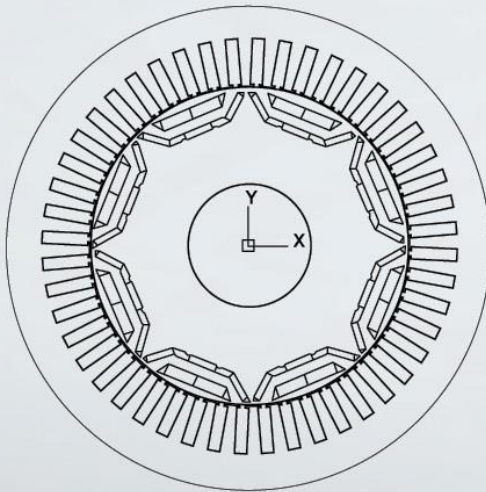
APPLICABLE COMPANY

- Car Maker

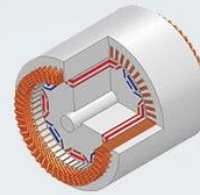
DIC

EV TRACTION MOTOR

Power Electric Product



DIC Hair-pin



Motor

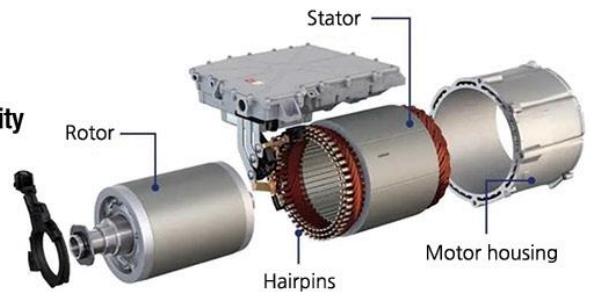


EV-Powertrain

KEY BENEFITS

- Compact packaging and Lightweight
- High Precision Position Control & High Power Density
- Effective motor cooling with oil
- Vibration & Noise Optimization
- EMI/EMC Certification

KEY FEATURES



Type	e – Drive Motor
Max. Power	160 kW
Max. Torque	400 Nm
Max. Speed	15,000 rpm
Core Size	Φ200 X 170
Cooling Type	Oil, Water
Max. Induced Voltage	800 Vdc
Coil Winding	Hair Pin

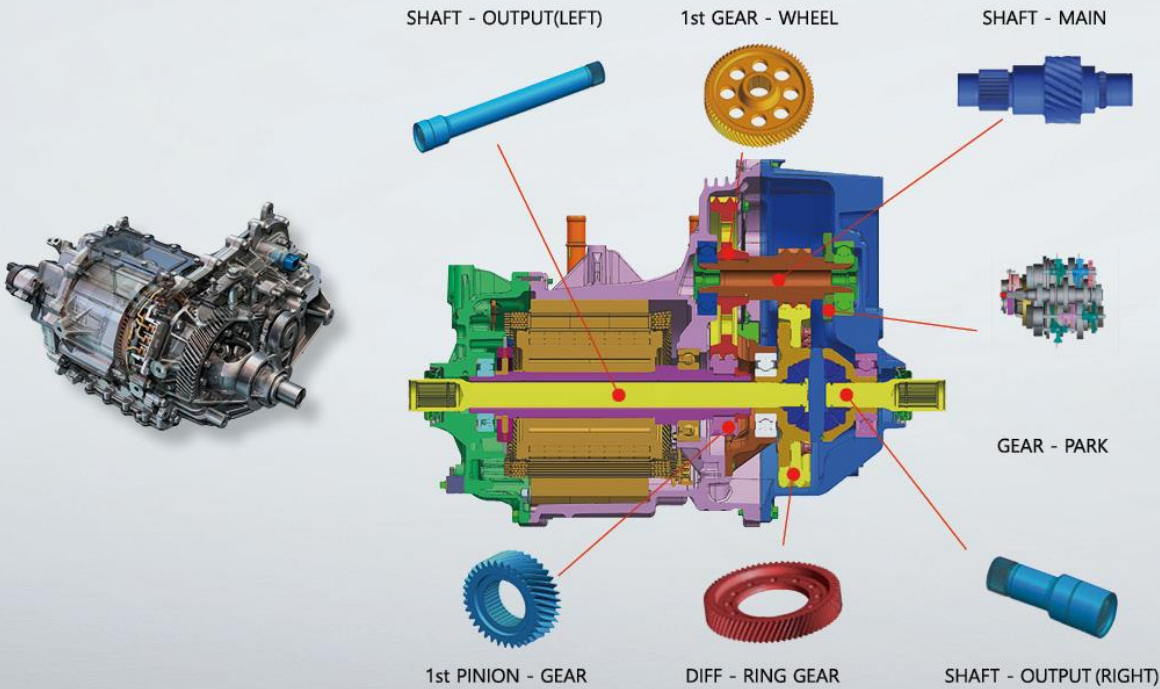
APPLICABLE VEHICLE

- Electric Vehicle
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker

GM EV REDUCER GEAR SET



KEY BENEFITS

- Fully automated manufacturing line
- Applied fully auto-measuring system for function & gear tooth
- In gear grinding applied LNS (Low Noise Shifting) for low noise
- Applied gear honing for shafts : Improve gear quality & productivity



KEY FEATURES

Type	FF Type
Max. Input Power	150 kW
Max. Input Torque	360 Nm
Gear Ratio	7.05
Capability	35,000 Set / Year

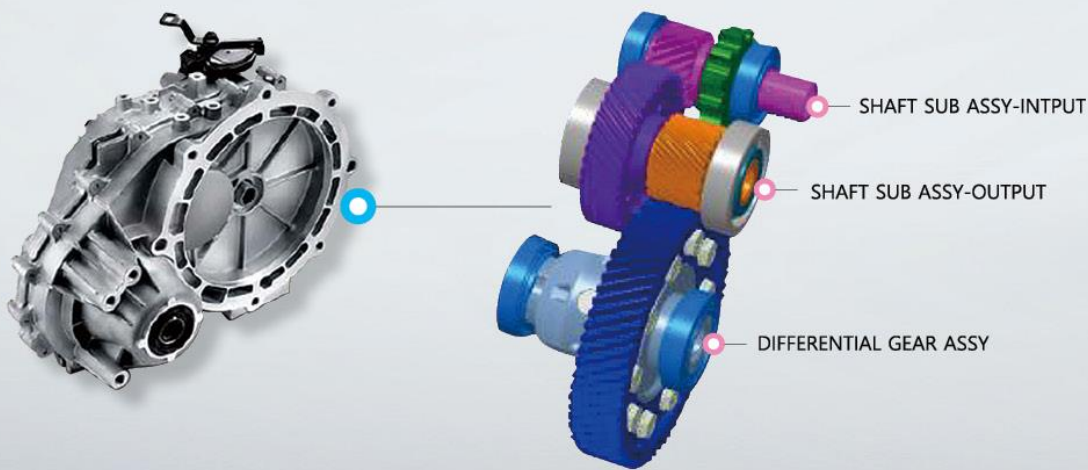
APPLICABLE VEHICLE

- Electric Vehicle (BOLT)
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker (General Motors), Gearbox Maker

HMC EV REDUCER GEAR SET



KEY BENEFITS

- Fully automated manufacturing line
- Applied fully auto-measuring system for function & gear tooth
- In gear grinding applied LNS (Low Noise Shifting) for low noise
- Applied gear honing for shafts : Improve gear quality & productivity

KEY FEATURES

Type	FF Type
Max. Input Power	90 kW
Max. Input Torque	280 Nm
Gear Ratio	7.98
Capability	150,000 Set / Year



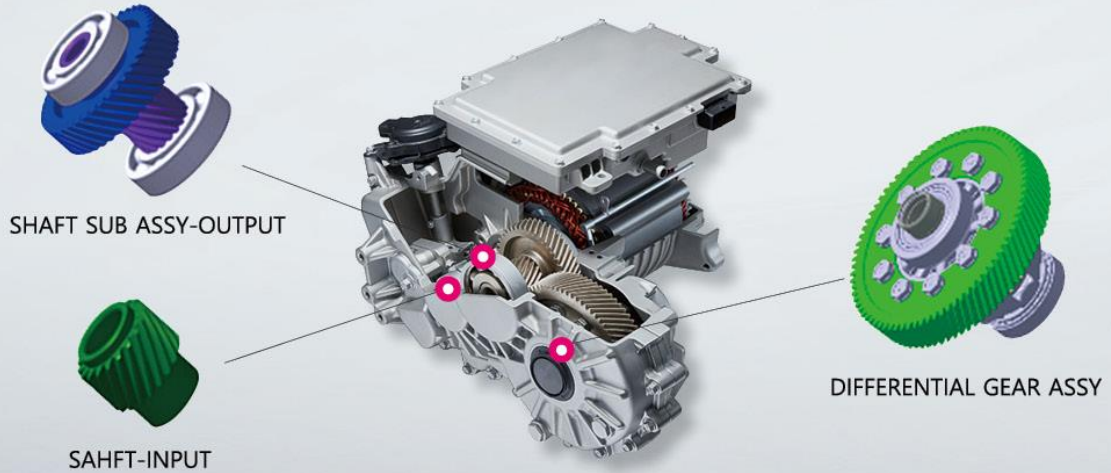
APPLICABLE VEHICLE

- Electric Vehicle (IONIQ, KONA, NIRO)
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker (Hyundai / KIA Motor Company), Gearbox Maker (Hyundai Transys)

HMC EV REDUCER GEAR SET



KEY BENEFITS

- Fully automated manufacturing line
- Applied fully auto-measuring system for function & gear tooth
- In gear grinding applied LNS (Low Noise Shifting) for low noise
- Applied gear honing for shafts : Improve gear quality & productivity

KEY FEATURES

Type	FF RR Type
Max. Input Power	225 kW
Max. Input Torque	350 Nm
Gear Ratio	10.65
Capability	300,000 Set / Year



APPLICABLE VEHICLE

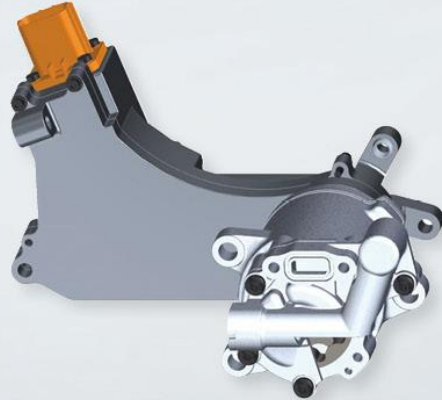
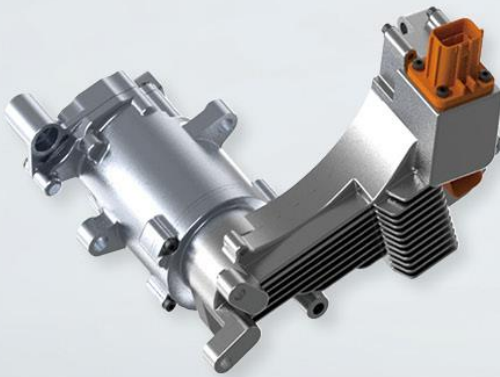
- Electric Vehicle (IONIQ5, EV6, G80e)
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker (Hyundai / KIA Motor Company), Gearbox Maker (Hyundai Transys)

i - Electric Oil Pump

Power Electric Product



High Voltage Electric oil pump with controller

KEY BENEFITS

- Controller Integrated Oil Pump for high voltage system
- Compact and Low-Weight
- Water and dust Protect Ability
- Competitive Cost
- Effective motor & controller cooling with oil
- Vibration & Noise Optimization

KEY FEATURES

Motor Type(Integrated Controller)	BLAC Sensorless Type
Rated Torque (Max. Torque)	4.7 Nm (12 Nm)
Power Consumption	1.46 kW
Max. Pressure	16 bar
Volumetric Displacement	10.2 cc/rev
Max. Speed	4,000 rpm
Allowable Voltage	250 V
Allowable Temperature	-35~120 °C(ATF)

APPLICABLE VEHICLE

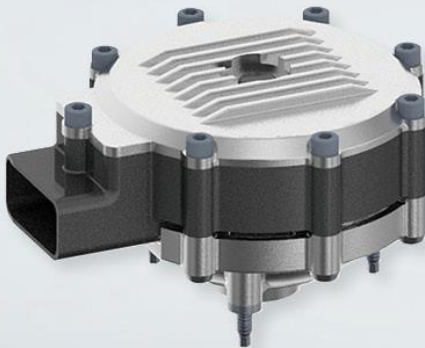
- Hybrid Electric Vehicle (Automatic Transmission)
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker (Hyundai / KIA Motor Company), Gearbox Maker (Hyundai Transys)

i-Shift By Wire

Power Electric Product



Controller Integrated Shift By Wire System

KEY BENEFITS

- Controller Integrated SBW Actuator
- Low Power Consumption
- High Precision Position Control applied to the SPM motor
- High Power Density
- Vibration & Noise Optimization
- Compact packaging and Low-Weight
- Competitive Cost



KEY FEATURES

Max. Power	180 W
Max. Torque	15 Nm
Max. Speed	70 rpm
Gear Ratio	60 : 1
Dimension	83 x 64 mm
Weight	980g
Permitted Temperature	-40~125°C

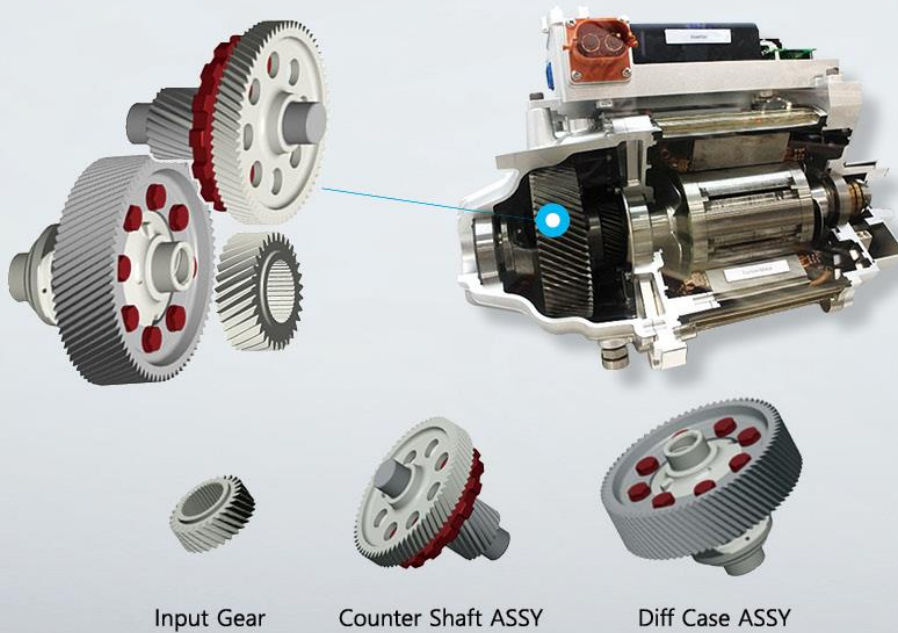
APPLICABLE VEHICLE

- EV, HEV, PHEV, FCEV (ECO-Friendly Car)
- Passenger Car, SUV, CUV, MPV
- Autonomous Car

APPLICABLE COMPANY

- Car Maker, Gearbox Maker

LG EV REDUCER GEAR SET



KEY BENEFITS

- Fully automated manufacturing line
- Applied fully auto-measuring system for function & gear tooth
- In gear grinding applied LNS (Low Noise Shifting) for low noise
- Applied gear honing for shafts : Improve gear quality & productivity



KEY FEATURES

Type	FF Type
Max. Input Power	90 kW
Max. Input Torque	280 Nm
Gear Ratio	7.23 / 8.20
Capability	30,000 Set / Year

APPLICABLE VEHICLE

- Electric Vehicle (S50)
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker (Dongfeng Motor Co. Ltd.), Gearbox Maker (LG Electronics)

Shift By Wire

Power Electric Product



Actuator (SBW)



Controller (SCU)

KEY BENEFITS

- Low Power Consumption
- High Precision Position Control applied to the SPM motor
- High Power Density
- Vibration & Noise Optimization
- Compact packaging and Low-Weight
- EMI/EMC Certification
- Competitive Cost



KEY FEATURES

Max. Power	180 W
Max. Torque	15 Nm
Max. Speed	70 rpm
Gear Ratio	60 : 1
Dimension	83 x 63 mm
Weight	820g
Permitted Temperature	-40~125°C

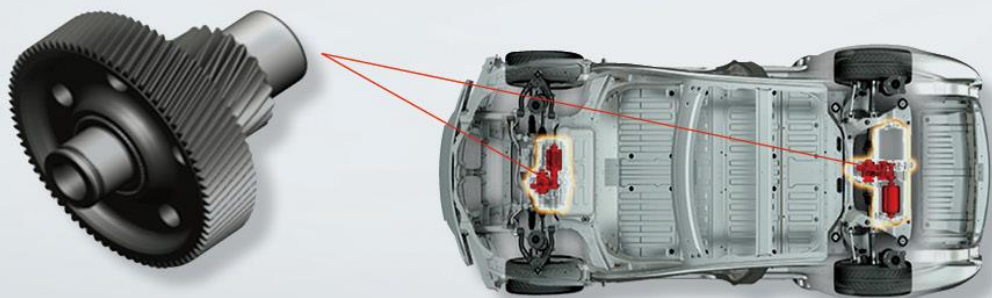
APPLICABLE VEHICLE

- Passenger Car (K8, SPORTAGE, NIRO etc)
- EV, HEV, PHEV, FCEV (ECO-Friendly Car)
- Autonomous Car

APPLICABLE COMPANY

- Car Maker (Hyundai/ KIA Motor Company), Gearbox Maker (Hyundai Transys)

TESLA EV REDUCER GEAR SET



ASSY, INTERMEDIATE SHAFT

KEY BENEFITS

- Fully automated manufacturing line
- Applied fully auto-measuring system for function & gear tooth
- In gear grinding applied LNS(Low Noise Shifting) for low noise
- Applied gear honing for shafts : Improve gear quality & productivity



KEY FEATURES

Type	FF RR Type
Max. Input Power	150 kW
Max. Input Torque	320 Nm
Gear Ratio	9.036
Capability	220,000 Set / Year

APPLICABLE VEHICLE

- Electric Vehicle (MODEL 3)
- Passenger Car, SUV, CUV, MPV

APPLICABLE COMPANY

- Car Maker (TESLA), Gearbox Maker

EV[Electric Vehicle] DRIVING SYSTEM



EV[Electric Vehicle] DRIVING SYSTEM

내연기관 자동차를 탈월한 전기차의 성능과 경제성, 안전성, 편의성을 실현한 첨단 시스템

제인모터스만의 독보적인 기술력과 안전주행시스템은 보이지 않는 곳에서도 당신의 드라이빙을 지원합니다.



제어모듈

OBC, LDC, PDU, MCU를 통합.

1톤 화물트럭에 최적화한 제어시스템 구성



VCU (Vehicle Control Unit)

1톤 화물트럭 주행에 최적화 되도록

개발된 첨단 제어기술 적용



트랙션 모듈

최고출력 90kw · 최대토크 280N.m의

고성능 PMSM 타입 모터 탑재

모듈명	부품명	기능
제어모듈	PDU[Power Distribution Unit]	고전압 전력분배장치
	인버터	1) 직류 → 교류 변환하여 모터에 전원공급 2) 교류 → 직류 변환하여 고전압배터리 충전(회생제동)
	LDC[Low voltage DC-DC Converter]	고전압배터리의 전원을 저전압(12V)으로 변환하여 차량 전원을 공급
	OBC[On Board Charge]	외부 전력망의 AC전원을 DC전원으로 변환하여 구동용배터리를 충전하는장치
차량제어장치	VCU[Vehicle Control Unit]	전기차의 다양한 제어를 총괄 제어
트랙션 모듈	모터	배터리에 저장된 전기를 이용하여 차량을 구동시키며 일반차의 엔진과 같은 역할을 함
	감속기	모터의 회전력을 적절한 속도와 토크로 변환하여 타이어에 전달
	EPP모터	감속기에 장착되어 파킹 브레이크 기능 수행
	EPP 컨트롤러	EPP MOTER를 제어

4륜구동 다목적 전기운반차 테리안

TERRIAN



|주| 제인모터스

주행은 쾌적하게, 운반은 거뜰히, 작업은 즐겁게 4륜구동 다목적 전기운반차 테리안

친환경 전기운반차로 쾌적한 주행환경! (배기가스無, 소음無)

9.2kW모터와 4륜구동이 결합된 강력한 등판능력!

300kg 적재 및 덤프 기능으로 편리해진 작업환경!

※ 농업용으로 사용시 취득등록세 면제, 정부 보조금 및 융자지원 가능
(농업용 동력운반차 인증完)



유류비 걱정없이 충전으로 OK!
테리안이 친환경 리조트, 친환경 테마파크, 친환경 마을을 만들어갑니다!



| 사양표 |

형 식	2륜구동	4륜구동
1. 배 터 리	리튬이온 8.3 kwh(74 V, 114 Ah)	
2. 모 터	정격 4.6 kW	정격 9.2 kW
3. 구동방식	후륜구동	전/후륜구동
4. 최고속도	25 km/h	
5. 1회충전 주행거리	60 km(On load)	70 km(On load)
6. 충전시간	10 hr	10 hr
7. 제동방식	전/후방: 유압 건식 디스크, 주차: EM 브레이크	
8. 최저지상고	250 mm	
9. 회전반경	4.5 m	
10. 덤프방식	전동 실린더	
11. 등판능력	25% 이상	35% 이상
12. 충전방식	220V(가정용 가능)	

※ 본 사양은 제품형상을 위해 예고없이 변경될 수 있습니다.

| 주요제원 |

구 분	2륜구동	4륜구동	구 분	2륜구동	4륜구동
1. 전 폭	1,480 mm	1,480 mm	5. 상 면 고	780 mm	780 mm
2. 전 고	1,950 mm	1,950 mm	6. 공차중량	710 kg	760 kg
3. 전 장	3,300 mm	3,300 mm	7. 적재중량	300 kg	300 kg
4. 축간거리	2,200 mm	2,200 mm	※ 본 사양은 제품형상을 위해 예고없이 변경될 수 있습니다.		



대구광역시 달성군 구지면 국가신민대로33길 40
TEL : (053) 630-2800 / FAX : (053) 615-3880
<http://smartstore.naver.com/zeinmotors>