



Challenge to the World, Challenge to the Future!

Electric Vehicle Motor



Electric Vehicle Motor



[ISO/TS 16949 certificate acquired]

Features

- Compact design of High Power Density (kW/kg)
 - Maximum Cooling Efficiency: High Current Density Winding, Water Cooling System, Aluminum Frame
 - High Quality Silicon Steel with Low Core-Loss and High Permissible Magnetic Flux.
- Structural Stability at High Speed Range
- Spline Shaft Driving Method
- Reinforcement of Insulation Performance to withstand Inverter Voltage Surge

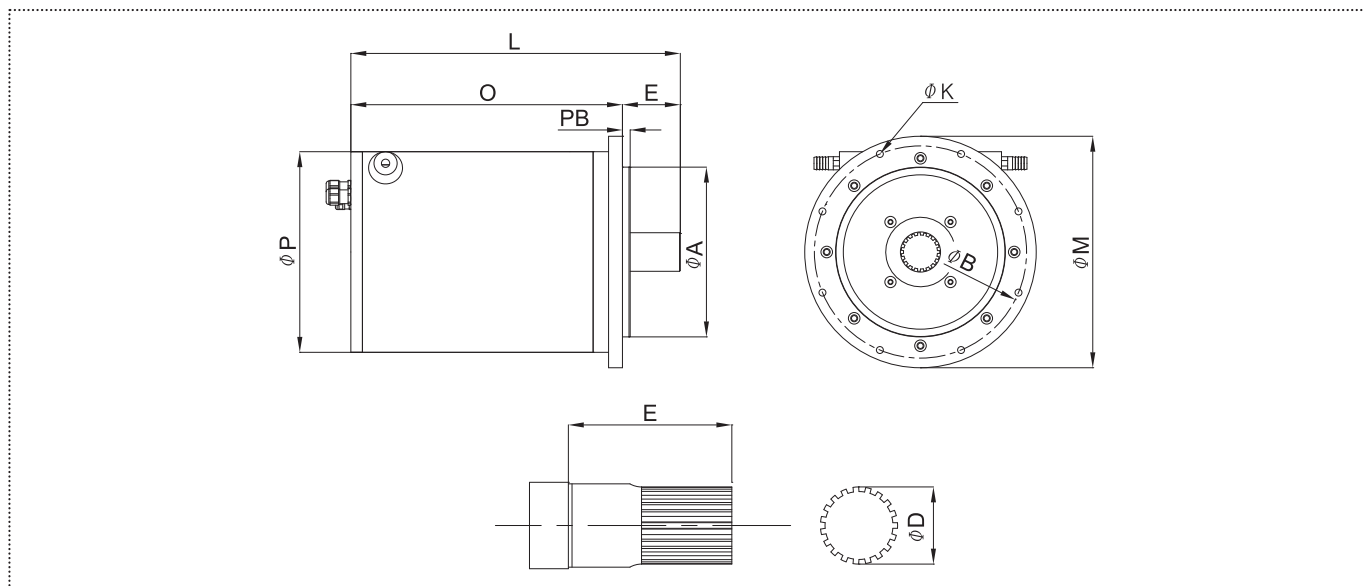
GENERAL SPECIFICATIONS

Rated Power	9 kW	15 kW	30 kW	60 kW
Rated Voltage	145 VAC	145 VAC	212 VAC	240 VAC
Rated Torque	34,4 Nm	57,3 Nm	72 Nm	164 Nm
Rated Speed	2,500 rpm	2,500 rpm	4,000 rpm	3,500 rpm
Efficiency	89%	89%	92%	93,5%
Max. Speed	9,000 rpm	9,000 rpm	9,000 rpm	10,000 rpm
Weight	31 kg	37 kg	59 kg	94 kg
Winding Scheme	Delta	Delta	Delta	Delta
Insulation Class	F	F	F	F
Cooling	Water (Max, 60℃)	Water (Max, 60℃)	Water (Max, 60℃)	Water (Max, 60℃)

PERFORMANCE DATA

Power (kW)	9 (Rated)	18 (Max.)	15 (Rated)	30 (Max.)	30 (Rated)	60 (Max.)	60 (Rated)	120 (Max.)
Rating Voltage (VAC)	145		145		212		240	
Rating	60 min	2 min	60 min	2 min	60 min	2 min	60 min	2 min
Torque (N · m)	34,4	89,5	57,3	149,7	72	186	164	426
Phase Current (A)	52	127	88	194	110	242	218	472
Speed (RPM)	2,500	1,920	2,500	1,888	4,000	3,080	3,500	2,689
Motor Efficiency (%)	89,0	82,0	89,0	81,0	92,0	89,0	93,5	90,0
Mechanical Max. Speed (RPM)	9,000	-	9,000	-	9,000	-	10,000	-

Outline Dimension



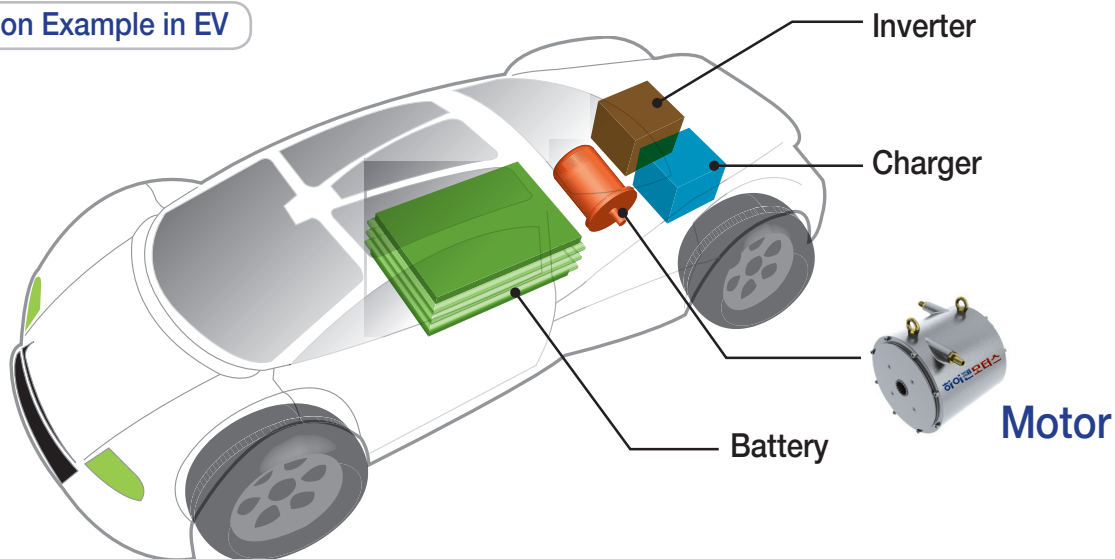
GENERAL SPECIFICATIONS

OUTPUT (kW) (Max / Nominal)	DIMENSIONS (mm)									
	MOTOR BODY									SHAFT
	L	ϕA	ϕB	E	ϕM	O	ϕP	PB	ϕK	D
18 / 9	275	190	245	60	260	215	235	5	9	35
30 / 15	300	190	245	60	260	240	235	5	9	35
60 / 30	400	220	275	90	300	310	260	5	11	40
120 / 60	490	250	320	90	350	400	300	5	11	40

* The information in this catalogue is subject to change for product improvement without prior notice.

* This specification is based upon 4 pole motors.

Application Example in EV



Output Range
4.5 ~ 350kW

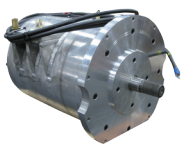
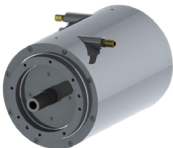
Motor Types
SPM, IPM, PMA-SynRM, SynRM, SRM, IM

Vehicle Types
Passenger Car, Truck, Bus, SUV, Golf Cart

Customize Your Driving Power!

Application

Item					
Max. Output (kW)	18	60	100	120	4.5
Max. Speed	9,000 r/min	10,000 r/min	12,500 r/min	9,000 r/min	6,000
Torque (N · m)	40	190	300	600	90
Type	IM	IM	IM	IM	IM
Cooling	Water	Water	Water	Water	Self Cooled
Application	Small Three Wheeler	Compact Car	SUV	Truck	Golf Car

Item					
Max. Output (kW)	120	140	80	100	19.6
Max. Speed	10,000 r/min	2,800 r/min	10,000 r/min	10,000 r/min	6,000
Torque (N · m)	600	-	250	250	90
Type	IM	SPMSM	Pma-SynRM	IM	IM
Cooling	Water	Water	Water	Water	Self Cooled
Application	Bus	Generator	Car	Car	N.E.V

HIGEN MOTORS

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