iNtraction™

iEV Motor Range

Versatility that adapts to your needs, reliability that endures

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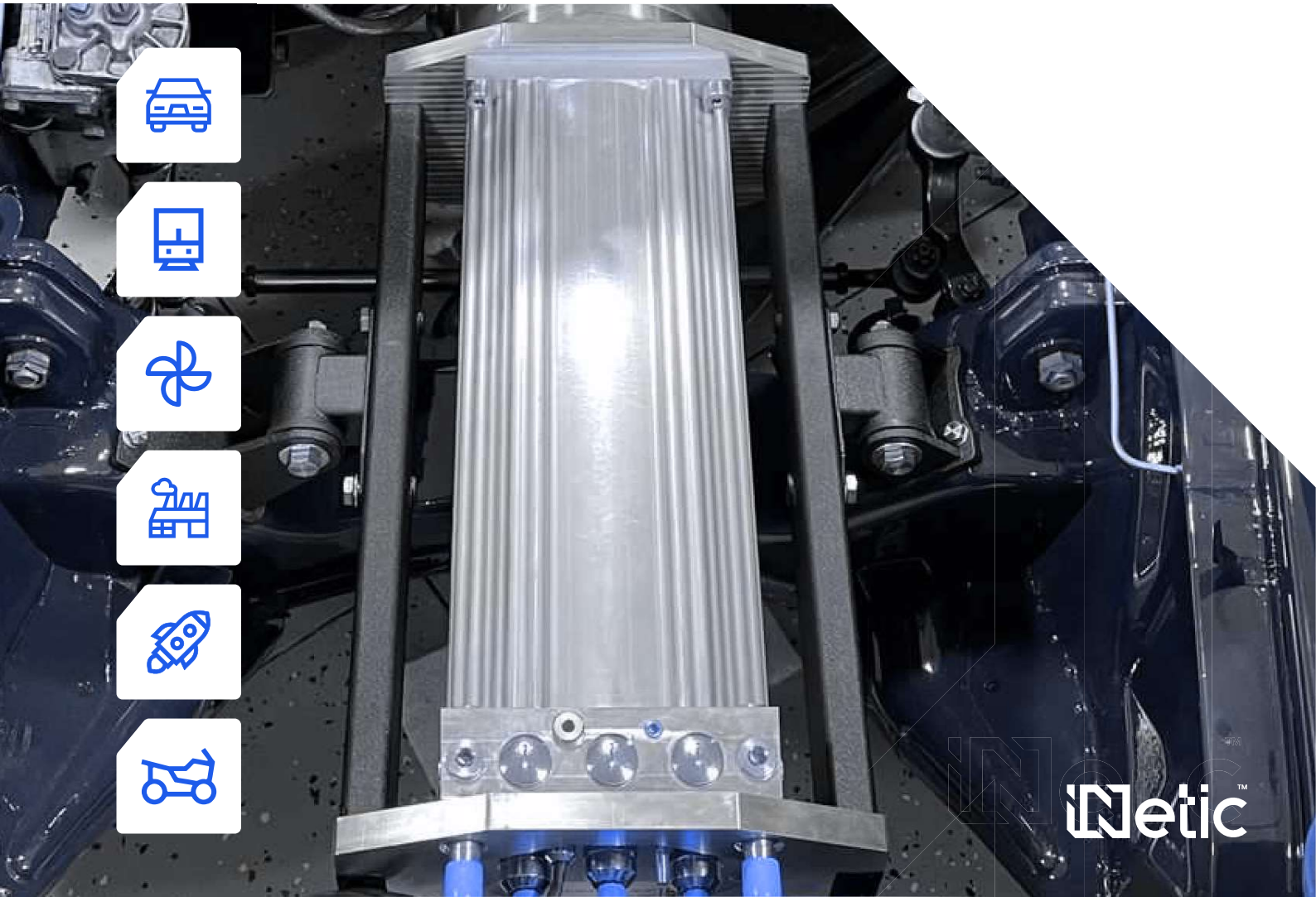
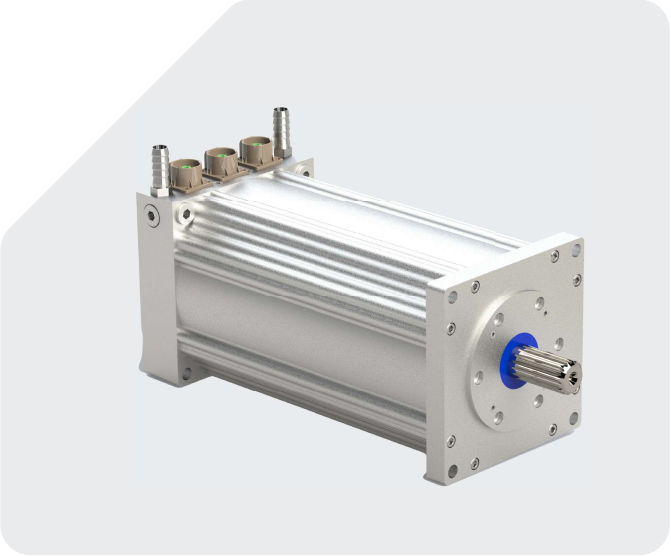
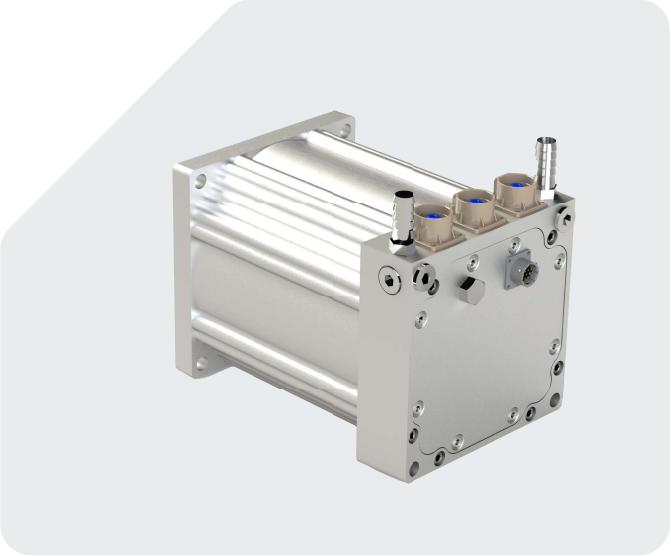
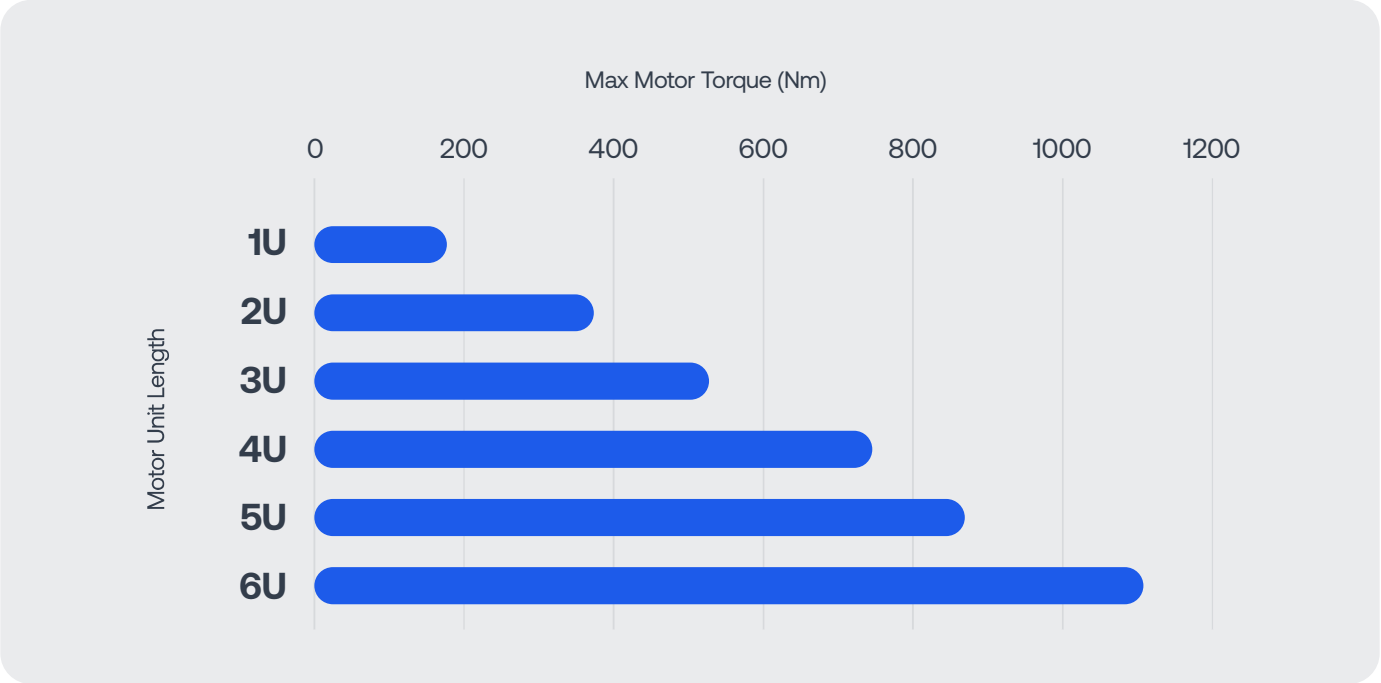


iEV Motor Range







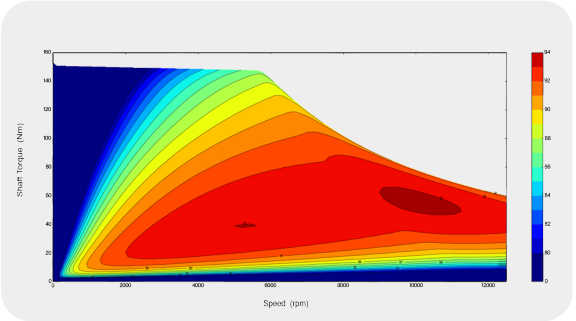
The iEV180 motor range is a cutting-edge high-speed electric motor designed to cater primarily for the automotive industry, while also finding applications in marine, power generation, industrial, and other sectors. With an impressive speed of 18,000pm, this motor offers exceptional performance and efficiency.

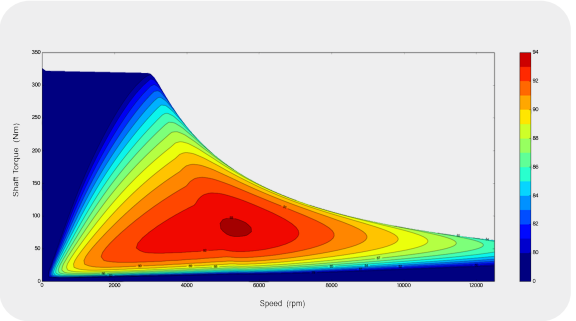
One of the key strengths of the iEV180 motor range is its versatility. It comes in multiple power ranges, allowing it to be customized to meet specific requirements across various industries. Additionally, the motor offers flexibility in terms of coolant and power connection configurations, ensuring seamless integration into different systems and applications.

The design of the iEV180 motor range has been developed to be robust and optimized for high-volume production. This makes it an ideal choice for manufacturers looking for reliable and scalable solutions for their electric vehicles or industrial projects.

iEV Motor Range

Characteristics





Electrical Specification	Unit	
Motor / Generator Type		3-Phase Radial Synchronous Flux Permanent Magnet Motor/Generator
Applications		Automotive Motorspot, Off-Highway, Motorcycle, Passenger Vehicle, Commercial Vehicle, Rail, Marine and Power Generation
DC Voltage (Motor)	VDC	400
Maximum Phase Current (Motor)	Arms	450
Rotor Position Sensor		Resolver

Performance Specification	Unit	iEV180-2U-WN200	iEV180-4U-WN200
Peak Torque (for 10s)	Nm	151	330
Peak Power (for 10s)	kw	92	110
Continuous Torque (30 min)	Nm	68	168
Continuous Power (30 min)	kw	46	73
Torque Density Peak	Nm/kg	8.3	9.5
Power Density Peak	kW/kg	5.0	3.2

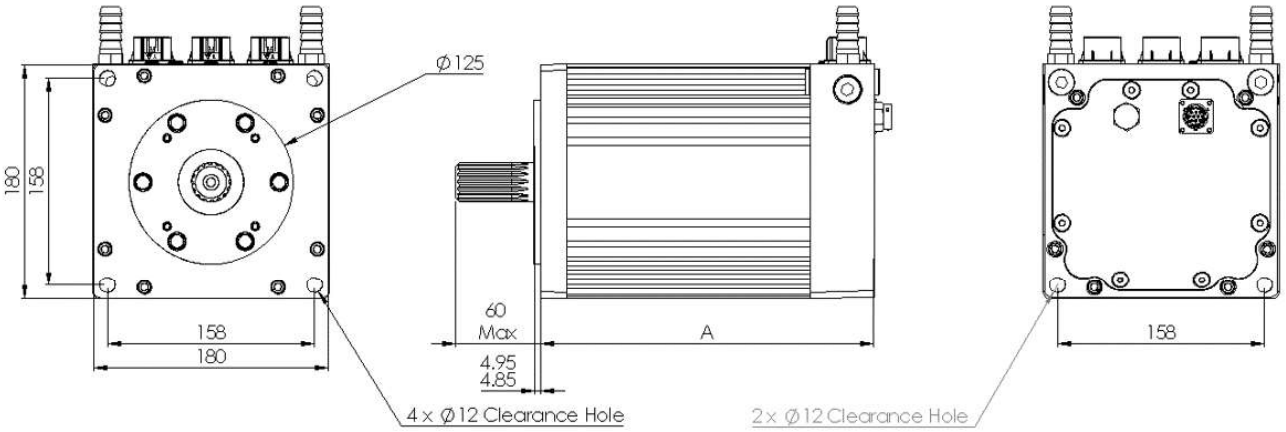
Mechanical Specification	Unit	iEV180-2U-WN200	iEV180-4U-WN200
Cross section dimension	mm	180 x 180	
Package Length (excluding splined shaft)	mm	256	381
Mass	kg	29.0	52.0
Maximum speed	rpm	14,500	
Axial/Radial Shaft Load	N	100 N axial 200 N radial	
Shaft Output		External Spline, Internal Spline, Plain Shaft or Single Keyways	
Ingress Protection	IP	IP67	
Motor Connection Type		Powerlok Connectors	
Cogging Torque	Nm	<3%	

Thermal Specification	Unit	iEV180-2U-WN200	iEV180-4U-WN200
Cooling method		Liquid cool, 50% Ethylene Glycol	
Coolant Inlet Temperature	°C	-10 to +75	
Coolant Inlet Pressure	bar (guage)	0.5 - 3.0	
Coolant Pressure drop across motor	barG a 10l/min	O.B	
Maximum stator winding temperature	°C	180	
De-rate stator winding temperature	°C	165	
Temperature sensor	-	PT1000	
Ambient Temperature	°C	-20 to 45	

NOTE: 1) Mass: excludes cables or coolant tubes, 2) Peak Values are simulated using 400VDC and 410Arms, 3) Continous values are simulated using 400 VDC, 70 C Inlet Temperature and 12 Lpm coolatn flow rate, 4) Data for lower voltages and current levels are available upon resquest.

iEV Motor Range

Mechanical Overview



Pressure Drop Data

	Flow Rate (L/min)	5	10	15	20
Pressure Drop (Bar)	1U	0.19	0.32	0.46	0.74
	2U	0.19	0.33	0.48	0.76
	3U	0.20	0.34	0.49	0.78
	4U	0.20	0.35	0.50	0.80
	5U	0.21	0.36	0.51	0.82
	6U	0.21	0.37	0.53	0.84

The table displays the pressure drop within the iEV180, considering an inlet temperature of 70°C and utilizing a coolant composed of a 50/50 water-glycol mixture.

Explore inetictraction.com to design your drive system with multiple configurations, matched controllers and gearboxes.