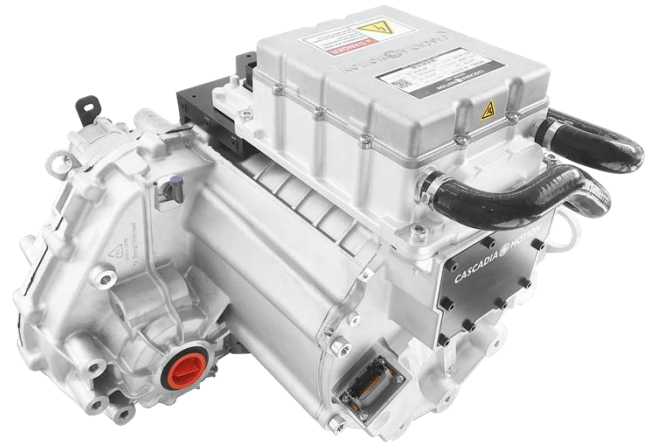




CASCADIA MOTION IDM-190  
INTEGRATED MODULE ELECTRIC  
MOTOR



The IDM-190 uses the CM200 inverter and the BorgWarner eDM motor and transmission. This complete module is capable of 4140 Nm of axle torque and is bolt in ready. It comes standard with a parking lock and a water pump.



## Features

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480Vdc maximum voltage

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Wavetrac limited slip differential

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Integrated parking lock

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8.28: 1 gearbox ratio

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Multiple mounting bosses

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Water-Cooled motor minimizes weight

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Pluggable HVIL DC connection

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OEM level integration

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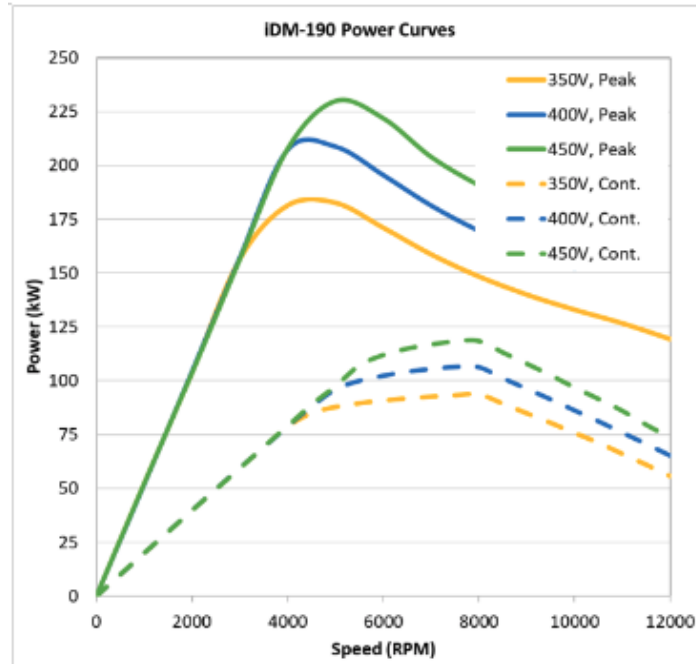
## Main Specifications

Peak Torque	500Nm (4140 Nm at axles)
Peak Power	225kW
Continuous Power	110-135kW
Maximum Speed	12000rpm
Weight	92kg
Motor Cooling Medium	50% E.G. / 50% Water
Inverter Cooling Medium	50% E.G. / 50% Water
Combined Efficiency	95% peak (@200Nm, 5500 rpm)

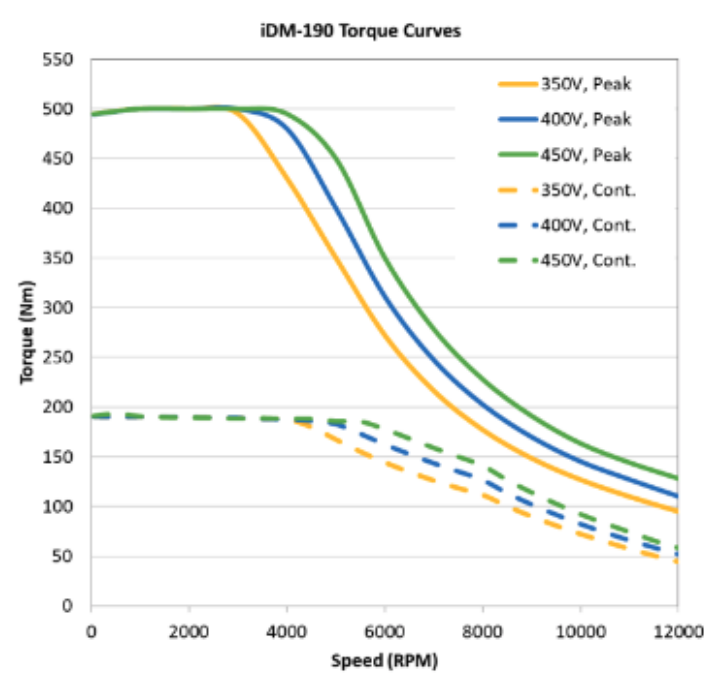
## Inverter to motor, low voltage connections

Motor Pin	Function	CM200DX or DZ Pin
1	Temperature sensor #1 (AIN2)	A4
2	Temperature sensor #1(AGND)	C4
3	Temperature sensor #2 (AIN3)	A4
4	Temperature Sensor #2(AGND)	D4
5	GND	G1
6	GND	G1
7	Resolver Signal Cos Low (-)	C1
8	Resolver Signal Cos Hi (+)	D1
9	Resolver Signal Sin Low (-)	A1
10	Resolver Signal Sin Hi (+)	B1
11	Resolver Excitation Negative signal	F1
12	Resolver Excitation Positive signal	E1
Shield	Resolver Shield Ground	G1

## POWER CURVE



## TORQUE CURVE



## OILING INFORMATION

All IDM-190 units are shipped without oil

### Approved Oils

- Dexron VI ATF(preferred)
- Transynd ATF (Synthetic Formulation of Dexron VI Made by Mobil 1)
- Shell Spirax S6 ATF A295 (made by Shell for ATF Application)
- Lubrizol OS183539V
- BASF (manual transmission fluid)

### Oil Fill Procedure

1. Remove drain plug and drain motor of oil.
2. Install drain plug. Torque to 20 Nm (15 ft lbf)
3. Remove oil fill cap. Torque to 20 Nm (15 ft lbf)
4. Fill with 1.8 L of approved oil.
5. Install oil fill cap. Torque to 20 Nm (15ft lbf)
6. Inspect sight glass to verify oil is present.
7. Spin motor to circulate the oil.
8. Oil level in sight glass to be observed at  $\frac{1}{4}$ -  $\frac{1}{2}$  on level ground after spin.

### Oil Pump

-Unless otherwise specified, the

pump components will be installed so that oil is pumping when the motor is rotating counterclockwise

-Oil will not pump when the motor is rotating clockwise

-It is approved to spin the motor in reverse rotation for short duration events

