



Activity sheet 5

5a.

Use $P = VI$ for these calculations.

1. An electric vehicle motor has an input voltage of 132 V and a power input of 112.2 kW. What input current should the connecting cables be able to safely deliver?

2. A cordless impact driver motor running at maximum power draws 42.39 A and has an input power of 763.02 W. What is the voltage of the impact driver's battery pack?

3. The spindle motor on a bench-top CNC mill draws 2.8 A at 230 V DC. What power does it draw?

5b.

When is maximum efficiency achieved v torque on the graph?

Maximum power is achieved at around 50% of maximum torque. What implications does this have when selecting a motor?

Why might an engineer choose to use a motor running at a higher speed, linked to a gearbox that provides lower speed and more torque?



Activity sheet 6

Use the data charts to select the best motor for each scenario.

Requirement	Motor	Reason
200 W of power to pump product into jars		
0.25 Nm torque to operate a section of conveyor belt		

E Efficiency **N** Speed **P** Power **I** Current

