

Motor Torque From Power Calculator

Convert entered horsepower and speed into torque in lb-ft and N-m for the motor formula family.

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<https://www.elecatrrix.com/motors-starters/motor-torque-from-power-calculator/>

Inputs

Input	Value	Unit
Power	20	hp
Speed	1750	rpm

Results

Result	Value	Unit
Power	20	hp
Speed	1750	rpm
Torque	60.0229	lb-ft
Torque	81.3801	N-m

Calculation details

Detail	Value	Unit
Calculation basis	Torque uses entered horsepower and speed with the 5252 conversion constant.	
Planning boundary	Formula conversion only; verify motor nameplate, speed, efficiency, duty, drive, and manufacturer data separately.	

Formulas

$\text{torque lb-ft} = 5252 \times \text{horsepower} / \text{speed rpm}$

$\text{torque N-m} = \text{torque lb-ft} \times 1.3558179483314$

Warnings and limitations

This conversion is limited to power-to-torque arithmetic. It does not select a motor, drive, protection, or operating duty.