

Motor Slip Calculator

Estimates induction-motor slip as a speed difference in rpm and as a percentage of synchronous speed from measured rotor speed.

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<https://www.elecatrix.com/motors-starters/motor-slip-calculator/>

Inputs

Input	Value	Unit
Synchronous speed	1800	rpm
Measured rotor speed	1740	rpm

Results

Result	Value	Unit
Slip speed	60	rpm
Slip	3.3333	%
Synchronous speed used	1800	rpm
Measured speed used	1740	rpm

Calculation details

Detail	Value	Unit
Calculation basis	Slip is the difference between synchronous speed and measured rotor speed, expressed as rpm and as a percentage of synchronous speed.	
Equipment boundary	Arithmetic slip estimate only; no motor design, frequency, pole count, load condition, nameplate, manufacturer, or code-compliance result is made.	

Formulas

$$\Delta n = n_{\text{synchronous}} - n_{\text{measured}}$$

$$s = \frac{\Delta n}{n_{\text{synchronous}}} \times 100\%$$

Warnings and limitations

This motor slip estimate uses entered speeds only. It does not diagnose a motor, determine motor design, or replace nameplate, manufacturer, or field-condition review.