# Induction Motor Formulas

Speed,	frequenc	y, and	pole

$$\eta_{sync} = rac{120 \, f}{P}$$
 $\eta_{sync} = Synchronous \, speed$ 
 $f = frequency$ 
 $P = poles$ 

 $s = \frac{\eta_{sync} - \eta_m}{\eta_{sync}} * 100\%$   $\eta_{sync} = Speed of magnetic field$   $\eta_m = Mechancial shaft speed$ 

# Torque, HP, and Speed

# Starting current calculator

$$\tau_{ind} = \frac{P}{\omega_m}$$

$$\tau_{ind} = Nm$$

$$P = Power in kW$$

$$\omega_m = r/min$$

www.electricalengineering.xyz  $I_L = \frac{S_{start}}{\sqrt{3} V_T}$   $S_{start} = rated \ HP * code \ factor$   $V_T = Rated \ voltage$ 

# **Motor Formulas And Calculations**

**Steve Doty, Wayne C. Turner** 

#### **Motor Formulas And Calculations:**

Formulas and Calculations for Drilling Operations James G. Speight, 2018-04-09 Newly revised this is still the must have guide for any drilling production or petroleum engineer with thousands of handy formulas and calculations that the engineer needs on a daily basis Presented in an easy to use format this second edition of Formulas and Calculations for Drilling Operations is a quick reference for day to day work out on the rig It also serves as a handy study guide for drilling and well control certification courses Virtually all the mathematics required on a drilling rig is here in one convenient source including formulas for pressure gradient specific gravity pump output annular velocity buoyancy factor and many other topics Whether open on your desk on the hood of your truck at the well or on an offshore platform this is the only book available that covers the gamut of the formulas and calculations for petroleum engineers that have been compiled over decades Some of these formulas and calculations have been used for decades while others are meant to help guide the engineer through some of the more recent breakthroughs in the industry's technology such as hydraulic fracturing and enhanced oil recovery There is no other source for these useful formulas and calculations that is this thorough An instant classic when the first edition was published the much improved revision is even better offering new information not available in the first edition making it as up to date as possible in book form Truly a state of the art masterpiece for the oil and gas industry if there is only one book Compressor Handbook: Principles and Practice Tony Giampaolo, 2023-11-23 This you buy to help you do your job this is it book examines the full spectrum of compressor types how they operate how to control them and how operating conditions can significantly impact their performance Discussed in detail are the influence of pressure temperature molecular weight specific heat ratio compression ratio speed vane position and volume bottles. 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Calculation of Short-circuit Reactance and Squirrel Cage Resistance of Self-starting Synchronous Motors

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