



NEED TO FIND	FORMULA
Horsepower - DC	$\frac{\text{Volts} \times \text{Amps} \times \text{Efficiency}}{746}$
Horsepower - AC	$\frac{\text{Volts} \times \text{Amps} \times 1.732 \times \text{Eff} \times \text{PF}}{746}$
Watts - DC	$\text{Volts} \times \text{Amps}$
Watts - AC	$\text{Volts} \times \text{Amps} \times \text{PF} \times 1.732$
Kilowatts	$\frac{\text{Volts} \times \text{Amps} \times \text{PF} \times 1.732}{1000}$
Amperes (DC)	$\frac{\text{Watts}}{\text{Volts}}$
Amperes (AC)	$\frac{746 \times \text{Horsepower}}{\text{Volts} \times \text{Eff} \times \text{PF} \times 1.732}$
KVA	$\frac{\text{Volts} \times \text{Amps} \times 1.732}{1000}$
Pump Motor HP	$\frac{\text{GPM} \times \text{Head in Feet} \times \text{Spec Gravity}}{3960 \times \text{Efficiency of Pump}}$
Fan Motor HP	$\frac{\text{CFM} \times \text{Pressure (lbs/Sq.Ft.)}}{33000 \times \text{Efficiency}}$

### RULES OF THUMB

<b>1HP = 746 Watts or .746 Kilowatts</b>
<b>At 3600 rpm a motor develops 1.5 ft/lbs of Torque per HP</b>
<b>At 1800 rpm a motor develops 3 ft/lbs of Torque per HP</b>
<b>At 1200 rpm a motor develops 4.5 ft/lbs of Torque per HP</b>
<b>A 460 Volt 3Phase motor draws 1.25 Amps per HP</b>
<b>A 230 Volt 3phase motor draws 2.5 Amps per HP</b>
<b>A 230 Volt 1Phase motor draws 5 Amps per HP</b>