FORMULAS FOR ELECTRICAL MOTORS

TO FIND	DIRECT CURRENT	SINGLE PHASE	THREE PHASE
HORSE POWER	$\frac{E \times I \times EFF}{746}$	$\frac{E \times I \times EFF \times PF}{746}$	$\frac{1.732 \times E \times I \times EFF \times PF}{746}$
CURRENT	$\frac{746 \times HP}{E \times EFF}$	$\frac{746 \times HP}{E \times EFF \times PF}$	$\frac{746 \times HP}{1.732 \times E \times EFF \times PF}$
EFFICIENCY	$\frac{746 \times HP}{E \times I}$	$\frac{746 \times HP}{E \times I \times PF}$	$\frac{746 \times HP}{1.732 \times E \times I \times PF}$
POWER FACTOR	———	$\frac{\text{Input Watts}}{E \times I}$	$\frac{\text{Input Watts}}{1.732 \times E \times I}$

E = Volts
I = Amperes
EFF = Efficiency (decimal)
PF = Power factor (decimal)
HP = Horsepower