SOLUTIONS
Electrical (Distribution) Ltd

Solutions Electrical (Distribution) Limited
Avondale Business Centre
Woodland Way
Kingswood
Bristol
BS15 1AW
Tel: 0117 961 0948
Fax: 0117 961 0960
sales@solutionselectrical.co.uk

Tel: 0117 961 0948 Fax: 0117 961 0960

CALCULATION TABLES FOR DC AND AC MACHINES

To Find	Direct Current	ALTERNATING CURRENT		
		Single-Phase	Two-Phase* Four Wire	Three-Phase
Amperes when Horse-power is known	$\frac{\text{H.P x 746}}{\text{E x \% EFF}}$	$\frac{\text{H.P x 746}}{\text{E x \% EFF x P.F}}$	$\frac{\text{H.P x 746}}{\text{2 x E x \% EFF x P.F}}$	$\frac{\text{H.P x 746}}{\text{1.73 x E x \%EFF x P.F}}$
Amperes when Kilowatts is known	$\frac{\text{K.W x 1000}}{\text{E}}$	$\frac{\text{K.W x 1000}}{\text{E x P.F}}$	$\frac{\text{K.W x 1000}}{\text{2 x E x P.F}}$	$\frac{\text{K.W x 1000}}{\text{1.73 x E x P.F}}$
Amperes when K.V.A is Known		$\frac{\text{K.V.A x 1000}}{\text{E}}$	$\frac{\text{K.V.A x 1000}}{\text{2 x E}}$	$\frac{\text{K.V.A x 1000}}{\text{1.73 x E}}$
Kilowatts	$\frac{\text{I x E}}{1000}$	$\frac{\text{I x E x P.F}}{1000}$	$\frac{\text{I x E x 2 x P.F}}{1000}$	$\frac{\text{I x E x 1.73 x P.F}}{1000}$
K.V.A		$\frac{\text{I x E}}{1000}$	$\frac{\text{I x E x 2}}{1000}$	$\frac{\text{I x E x 1.73}}{1000}$
Horse-power (output)	$\frac{\text{I x E x \% EFF}}{746}$	$\frac{\text{I x E x \% EFF x P.F}}{746}$	$\frac{\text{I x E x 2 x \% EFF x P.F}}{746}$	$\frac{\text{I x E x 1.73 x \% EFF x P.F}}{746}$

I = Amperes · E = Volts · % EFF = per cent efficiency · P.F = Power Factor .8 · K.W = Kilowatts
K.V.A = Kilo-Volt-Amperes · H.P = Horse Power
*** For three wire, two phase circuits the current in the common conductor is 1.41 times that in either of he other two conductors.**