METRIC FORMULAE

NOTE: These formulae are theoretical and an allowance for inefficiency in practice should be made. For example, for a 10% margin, multiply results by 1.1.

KILOWATTS	kW	=	$\frac{\text{BAR x L / M}}{600}$
	kW	=	$\frac{\text{BAR x CC / REV x RPM}}{600 \times 1000}$
	kW	=	$\frac{\text{Nm x RPM}}{9550}$
PRESSURE	BAR	=	$\frac{\text{kW x 600}}{\text{L/M}}$
	BAR	=	$\frac{\text{kW x 600 x 1000}}{\text{CC / REV x RPM}}$
PUMP DISPLACEMENT	CC/REV	=	$\frac{\text{kW x 600 x 1000}}{\text{BAR x RPM}}$
FLOW RATE	L/M	=	$\frac{\text{kW x 600}}{\text{BAR}}$
TORQUE	Nm	=	$\frac{\text{kW x 9550}}{\text{RPM}}$
	Nm	=	$\frac{\text{BAR x CC / REV}}{62.8}$
SPEED	RPM	=	$\frac{\text{kW x 9550}}{\text{Nm}}$
MOTOR DISPLACEMENT	CC/REV	=	$\frac{\text{Nm x 20 x } \pi}{\text{BAR}}$

Area of a circle		=	$\frac{\pi D^2}{4}$
Where	π	=	3.1416
	D	=	Diameter
CYLINDER DISPLACEMENT (PUSH AND PULL)		=	(PISTON AREA x STROKE x 2) - (ROD AREA x STROKE)