

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

$$\text{Area of a circle} = \frac{\pi D^2}{4}$$

$$\text{Where } \pi = 3.1416$$

$$D = \text{Diameter}$$

$$\text{CYLINDER DISPLACEMENT (PUSH AND PULL)} = (\text{PISTON AREA} \times \text{STROKE} \times 2) - (\text{ROD AREA} \times \text{STROKE})$$



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