IMPERIAL FORMULAE
HYDRAULIC AND ENGINEERING DATA

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.

HORSE POWER	$HP =$	$\dfrac{PSI \times US\ GPM}{1714}$
	$HP =$	$\dfrac{PSI \times C.IN\ /\ REV \times RPM}{1714 \times 231}$
	$HP =$	$\dfrac{IN/LBS \times RPM}{63025}$
PRESSURE	$PSI =$	$\dfrac{HP \times 1714}{US\ GPM}$
	$PSI =$	$\dfrac{HP \times 1714 \times 231}{C.IN\ /\ REV \times RPM}$
PUMP DISPLACEMENT	$C.IN/REV =$	$\dfrac{HP \times 1714 \times 231}{PSI \times RPM}$
FLOW RATE	$US\ GPM =$	$\dfrac{HP \times 1714}{PSI}$
TORQUE	$IN/LBS =$	$\dfrac{HP \times 63025}{RPM}$
	$IN/LBS =$	$\dfrac{PSI \times C.IN\ /\ REV}{2 \times \pi}$
SPEED	$RPM =$	$\dfrac{HP \times 63025}{IN\ /\ LBS}$
MOTOR DISPLACEMENT	$C.IN/REV =$	$\dfrac{IN\ /\ LBS \times 2 \times \pi}{PSI}$

AREA OF A CIRCLE	$=$	$\dfrac{\pi D^2}{4}$
WHERE	$\pi =$	3.1416
	$D =$	**DIAMETER**
CYLINDER DISPLACEMENT (PUSH AND PULL)	$=$	(PISTON AREA x STROKE x 2) - (ROD AREA x STROKE)