

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	=	PSI X US GPM 1714
	HP	=	PSI x C.IN / REV x RPM 1714 x 231
	HP	=	IN/LBS x RPM 63025
PRESSURE	PSI	=	HP X 1714 US GPM
	PSI	=	HP x 1714 x 231 C.IN / REV x RPM
PUMP DISPLACEMENT	C.IN/REV =		HP x 1714 x 231 PSI x RPM
FLOW RATE	US GPN	M =	HP X 1714 PSI
TORQUE	IN/LBS	=	HP X 63025 RPM
	IN/LBS	; =	PSI x C.IN / REV 2 x π
SPEED	RPM	=	HP X 63025 IN / LBS
MOTOR DISPLACEMENT	C.IN/RE	EV =	IN / LBS x 2 x π PSI

AREA OF A CIRCLE

= $\frac{\pi D^2}{4}$ WHERE $\frac{\pi}{D} = \frac{3.1416}{D}$ CYLINDER DISPLACEMENT

(PUSH AND PULL)

= (PISTON AREA × STROKE × 2) - (ROD AREA × STROKE)