

Power Related Equations

Equation	Metric	U.S. Customary	Solve for:
$P = \frac{T \times N}{K}$	P= Power kW T= Torque Nm N= rpm K= 9,549.295	P= Power hp T= Torque in.lb N= rpm K= 63,025.357	P ower using T orque and N (rpm)
$P = \frac{p \times Q}{K}$	P= Power kW p= pressure MPa Q= Flow lpm K= 60	P= Power kW p= pressure psi Q= Flow gpm K= 1,714	P ower using p ressure and Q (flow)
$P = \frac{p \times d \times N}{K}$	P= Power kW p= pressure MPa d= displacement cm ³ N= rpm K= 60,000	P= Power kW p= pressure psi d= displacement in ³ N= rpm K= 396,000	P ower using p ressure, d isplacement, and N (rpm)
$N = \frac{Q \times K}{d}$	N= rpm K= 1,000 d= displacement cm ³	N= rpm K= 231 d= displacement in ³	N (rpm) using Q (flow) and d isplacement
$N = \frac{P \times K}{p \times d}$	N= rpm P= Power kW K= 60,000 p= pressure MPa d= displacement cm ³	N= rpm P= Power hp K= 396,000 p= pressure psi d= displacement in ³	N (rpm) using P ower, p ressure, and d isplacement
$N = \frac{P \times K}{T}$	N= rpm P= Power kW K= 9,549.295 T= Torque Nm	N= rpm P= Power hp K= 63025.357 T= Torque in.lb	N (rpm) using P ower and T orque
$d = \frac{2\pi \times T}{p}$	d= displacement cm ³ T= Torque Nm p= pressure MPa	d= displacement in ³ T= Torque in.lb. p= pressure psi	d isplacement using T orque and p ressure
$d = \frac{P \times K}{p \times N}$	d= displacement cm ³ P= Power kW K= 60,000 p= pressure MPa N= rpm	d= displacement in ³ P= Power hp K= 396,000 p= pressure psi N= rpm	d isplacement using P ower, N (rpm), and p ressure
$d = \frac{Q \times K}{N}$	d= displacement cm ³ Q= Flow lpm K= 1000 N= rpm	d= displacement in ³ Q= Flow gpm K= 231 N= rpm	d isplacement using Q (flow) and N (rpm)
$p = \frac{2\pi \times T}{d}$	p= pressure MPa T= Torque Nm d= displacement cm ³	p= pressure psi T= Torque in.lb. d= displacement in ³	p ressure using T orque and d isplacement
$p = \frac{P \times K}{d \times N}$	p= pressure MPa K= 60,000 d= displacement cm ³ N= rpm	p= pressure psi K= 396,000 d= displacement in ³ N= rpm	p ressure using P ower, d isplacement and N (rpm)
$p = \frac{P \times K}{Q}$	p= pressure MPa K= 60 Q= Flow lpm	p= pressure psi K= 1,714 Q= Flow gpm	p ressure using P ower and Q (flow)
$T = \frac{P \times K}{N}$	T= Torque Nm K= 9,549.295 N=rpm	T= Torque in.lb. K= 63,025.357 N=rpm	T orque using P ower and N (rpm)
$T = \frac{p \times d}{2\pi}$	T= Torque Nm p= pressure MPa d= displacement cm ³	T= Torque in.lb p= pressure psi d= displacement in ³	T orque using p ressure and d isplacement
$Q = \frac{P \times K}{p}$	Q= Flow lpm K=60 p= pressure MPa	Q= Flow gpm K=1,714 p= pressure psi	Q (flow) using P ower and p ressure
$Q = \frac{d \times N}{K}$	Q= Flow lpm d= displacement cm ³ K= 1000	Q= Flow gpm d= displacement in ³ K= 231	Q (flow) using d isplacement and N (rpm)