Formulas

HPVSKW

1HP=0.746KW
1KW=1.34HP

OHMS

Ohms=Volts÷Amperes
Amperes=Volts÷Ohms
Volts=AmperesxOhms

POWER–A.C.CIRCUITS

PowerFactor=Watts÷(VoltsxAmperes)
ThreePhaseKilowatts=(VoltsxAmperesxPowerFactorx1.732)÷1000
ThreePhaseVolt-Amperes=VoltsxAmperesx1.732
ThreePhaseAmperes=(746xHorsepower)÷(1.732xVoltsxEfficiencyxPowerFactor)
SinglePhaseKilowatts=(VoltsxAmperesxPowerFactor)÷1000
SinglePhaseAmperes=(746xHorsepower)÷(VoltsxEfficiencyxPowerFactor)

POWER–D.C.CIRCUITS

Watts=VoltsxAmperes
Amperes=Watts÷Volts
Horsepower=(VoltsxAmperesxEfficiency)÷746

MOTORSFORMULAS

Torque(lbs.-ft.)=(Horsepowerx5250)÷RPM
ShaftStress(lbs.persq.inch)=(Horsepowerx321000)÷(RPMxShaftDiam3)

PUMPS

Horsepower=(GPMxHeadinFeetxSpecificGravity)÷(3960xEfficiencyofPump)

VENTILATION

Horsepower=(CFMxPressure(lbs.persq.ft.))÷(33000xEfficiency)

SPEED

SynchronousRPM=(Hertzx120)÷Poles
PercentSlip=(SynchronousRPM–FullLoadRPM)÷SynchronousRPMx100