Dimensions

Magnetic Flux Density $[B]=T=\frac{N}{Am}=\frac{Ns}{Cm}$

Electric Field Intensity $[E]=\frac{V}{m}$

Magnetic Field Intensity $[H]=\frac{A}{m}$

Induced Current Density $[j]=\frac{A}{m^2}$

Electric Flux Density or Electric Displacement $[D]=\frac{C}{m^2}$

Electric Charge Density $[q]=\frac{C}{m^3}$

Permeability $[\mu]=\frac{H}{m}=\frac{N}{A^2}$ $\quad \mu_0=4\pi\times10^{-7}\frac{H}{m}$; H = Henry

Electric Conductivity $[\sigma]=\frac{1}{\Omega m}=\frac{A}{Vm}$

Lorentz Force $[L_f]=\frac{N}{m^3}$

permittivity $\varepsilon=\frac{1}{36\pi}\times10^{-9}\frac{F}{m}=8.854\times10^{-12}\frac{F}{m}$; $F = Faraday$

Conversion

$1V=1\frac{J}{C}$ $\quad 1A=1\frac{C}{s}$ $\quad 1V=1\Omega A$ $\quad 1C=1FV$

$1N\cdot m = 1A\cdot V\cdot s$

$1W = 1A\cdot V$

Parameters

$b_0=U\mu\sqrt{\sigma\nu\rho}$ $\quad [b_0]=\frac{m}{s}\frac{N}{m^2}\sqrt{\frac{A}{Vm}\frac{m^2}{s}\frac{kg}{m^3}}=\frac{N}{Am}$

$j_0=UB_0\sigma$ $\quad [j_0]=\frac{m}{s}\frac{N}{Am}\frac{N}{Vm}=\frac{A}{m^2}$

$Ha=\frac{B_0 b_0}{\mu}\frac{a}{\rho\nu U}=B_0 a\sqrt{\frac{\sigma}{\rho\nu}}$ $\quad [Ha]=\frac{\frac{N}{Am}\frac{N}{Am}}{\frac{N}{A^2}}\frac{m}{\frac{kg}{m^3}\frac{m^2}{s}\frac{m}{s}}=\frac{N}{Am}m\sqrt{\frac{\frac{A}{Vm}}{\frac{kg}{m^3}\frac{m^2}{s}}}=1$