

| Dynamometer Power and Torque Calculator | | |
|---|----------|--------|
| Torque Calculator, Eq. 1 | | Units |
| Cells shown as light blue editable | | |
| Force F = | 500.000 | lbf ▼ |
| radius arm r = | 10.000 | in |
| Calculated Results | | |
| Eq. 1 Torque, T = | 5000.000 | in-lbf |

| Absorption - Brake Dynamometer Calculator, Eq. 3 | | Units |
|--|----------|----------|
| Cells shown as light blue editable | | |
| Torque T = | 25,000.0 | in-lbf ▼ |
| efficiency η_{rpm} = | 95.0 | % |
| Calculated Results | | |
| Power P = | 4.522 | hp |

| Standard brake arm Calculator, Eq. 4 | | Units |
|--------------------------------------|----------|--------|
| Cells shown as light blue editable | | |
| Force applied F_{lbf} = | 25,000.0 | in-lbf |
| efficiency η_{rpm} = | 95.0 | % |
| Calculated Results | | |
| Power P = | 23.750 | hp |

| Absorption Calculator, Eq. 5 | | Units |
|------------------------------------|--------|-------|
| Cells shown as light blue editable | | |
| Amperes I = | 60.0 | amps |
| Volts V = | 120.0 | volts |
| efficiency η = | 86.0 | % |
| Calculated Results | | |
| Power P = | 11.227 | hp |

| Driving Calculator, Eq. 6 | | Units |
|------------------------------------|-------|-------|
| Cells shown as light blue editable | | |
| Amperes I = | 60.0 | amps |
| Volts V = | 120.0 | volts |
| efficiency η = | 96.0 | % |
| Calculated Results | | |
| Power P = | 9.269 | hp |

| Torque meter to power shaft Calculator, Eq. 7 | | Units |
|---|----------|-----------------------|
| Cells shown as light blue editable | | |
| Shear modulus G = | 32,000.0 | lbf/in ² ▼ |
| angle of twist ϕ = | 0.8 | deg |
| L = | 20.0 | in |
| d = | 1.5 | in |
| Calculated Results | | |
| Torque T = | 636.17 | in-lbf |

| Torque meter to power shaft Calculator, Eq. 8 | | Units |
|---|--------|-----------------------|
| Cells shown as light blue editable | | |
| shear stress τ = | 800.0 | lbf/in ² ▼ |
| d = | 1.5 | in |
| Calculated Results | | |
| Torque T = | 530.14 | in-lbf |