

# Calculation for Worm Gear

Inputs ..

$$T := 2000 \text{ N}\cdot\text{m} \quad \text{ratio} := 52$$

$$n := 960 \text{ rpm} \quad \text{Eff} := 76\%$$

$$P := \frac{T}{9550} \cdot \frac{n}{\text{ratio}} \cdot \frac{1}{0.76} = 0.533 \text{ W}$$

$$\text{module}_{\text{unit}} := \frac{\text{kg}^{\frac{1}{3}} \cdot \text{m}^{\frac{2}{3}}}{\text{s}^{\frac{2}{3}}}$$

$$\text{module} := \frac{10 \cdot \sqrt[3]{\frac{1933 \cdot P \cdot \text{Eff}}{6.3 \cdot 2.1 \cdot 1 \cdot n}}}{\text{module}_{\text{unit}}} = 8.38$$

$$\text{module} = 8$$