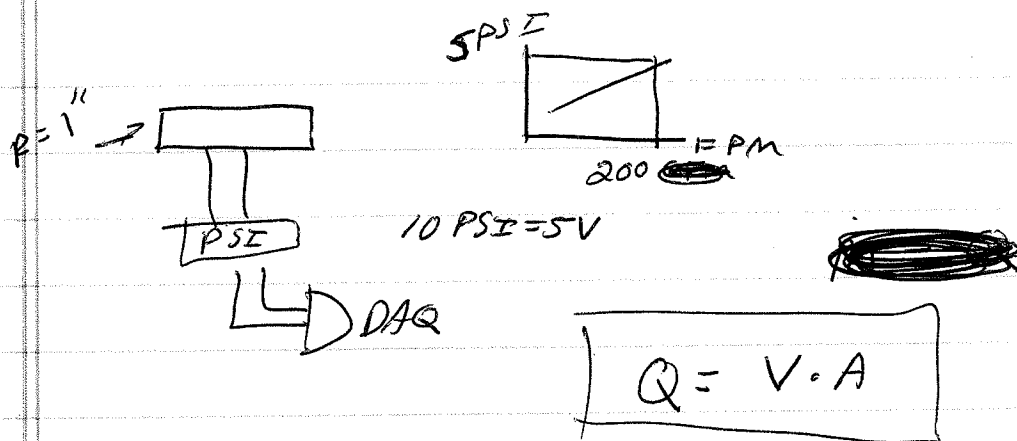


EXAMPLE



~~VEL~~ ERROR = .5% FS

PSI LIN $\pm .1\%$ FS

ACC $\pm .5\%$ FS

DAQ $\pm 5 \text{ mV}$

$$V = \frac{200 \text{ FPM}}{5 \text{ PSI}} = \frac{40 \text{ FPM}}{\text{PSI}}$$

$$\text{PSI} = \frac{10 \text{ PSF}}{5 \text{ V}_{\text{OUT}}} = \frac{2 \text{ PSI}}{\text{V}_{\text{OUT}}}$$

PERTUBATION -

$$\text{VEL} \pm .5\% \text{ FS} = 200 \times .005 = \pm 1 \text{ FPM}$$

$$\text{PSI LIN} = \pm .1\% \text{ FS} \quad 10 \text{ PSI} \times .001 = .01 \text{ PSI}$$

$$.01 \text{ PSI} \times \frac{40 \text{ FPM}}{\text{PSI}} = \pm .4 \text{ FPM}$$

$$\text{PSI ACC} \pm .5\% \text{ FS} \quad 10 \text{ PSI} \times .005 = .05 \text{ PSI}$$

$$.05 \times \frac{40 \text{ FPM}}{\text{PSI}} = \pm 2 \text{ FPM}$$

$$DAQ = \pm 5 \text{ mV} = ? \text{ FPM}$$

$$5 \text{ mV} \times \frac{2 \text{ PSI}}{V} \times \frac{40 \text{ FPM}}{\text{PSI}} = .4 \text{ FPM}$$

$$V = 200 \text{ FPM}$$

- A) VEL x DUCL $\pm$ 1 FPM
- B) PSI LIN $\pm$.4 FPM
- C) PSI ACC $\pm$ 2 FPM
- D) DAQ $\pm$.4 FPM

$$Q = V \cdot A$$

NOMINAL $Q = 200 \cdot .0218 = 4.36 \text{ COFT/MIN}$

$$\begin{aligned} \text{A)} \quad 201 \times .0218 &= 4.3818 \\ 199 \times .0218 &= 4.3382 \end{aligned}$$

$$\begin{aligned} \text{B)} \quad 200.4 \times .0218 &= 4.3687 \\ 199.6 \times .0218 &= 4.3513 \end{aligned}$$

$$\begin{aligned} \text{C)} \quad 202 \times .0218 &= 4.4036 \\ 198 \times .0218 &= 4.3164 \end{aligned}$$

$$\begin{aligned} \text{D)} \quad 200.4 \times .0218 &= 4.3687 \\ 199.6 \times .0218 &= 4.3513 \end{aligned}$$

	G+	G-	ΔG	
A)	4.3818	4.3382	.0218	475.24×10^{-6}
B)	4.3687	4.3513	.0087	75.69×10^{-6}
C)	4.4036	4.3164	.0436	1.9×10^{-3}
D)	4.3687	4.3513	.0087	75.69 75.69×10^{-6}

~~2.528 x 10⁻³~~

$$\frac{|4.3818 - 4.36| + |4.3382 - 4.36|}{2} = .0218$$

$$\sum \Delta G^2 = 2.528 \times 10^{-3}$$

$$4.36 \pm .05 \quad \text{FT}^3/\text{MIN}$$