

ET 438a  
Continuous and Digital Control

Homework

A linear flow transducer has an output voltage range of 0.25-2.5 Vdc over a range of flow of 0 - 50 gal/min (GPM).

- Find the equation that relates the flow,  $Q$ , to the transducer output voltage  $V_T$ .
- Find a linear equation that takes the output of the transducer  $V_T$  and scales it to a range of 0-10 Vdc.
- Find the values of  $R_b$  and  $R_t$  in the OP AMP circuit given below that will implement the linear equation from part b. The value of  $R_f = 330 \text{ k}\Omega$  and  $V_b = 2.0 \text{ Vdc}$ .

