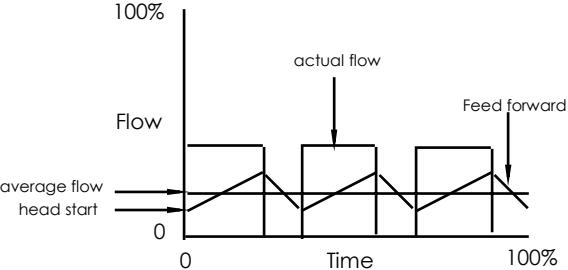
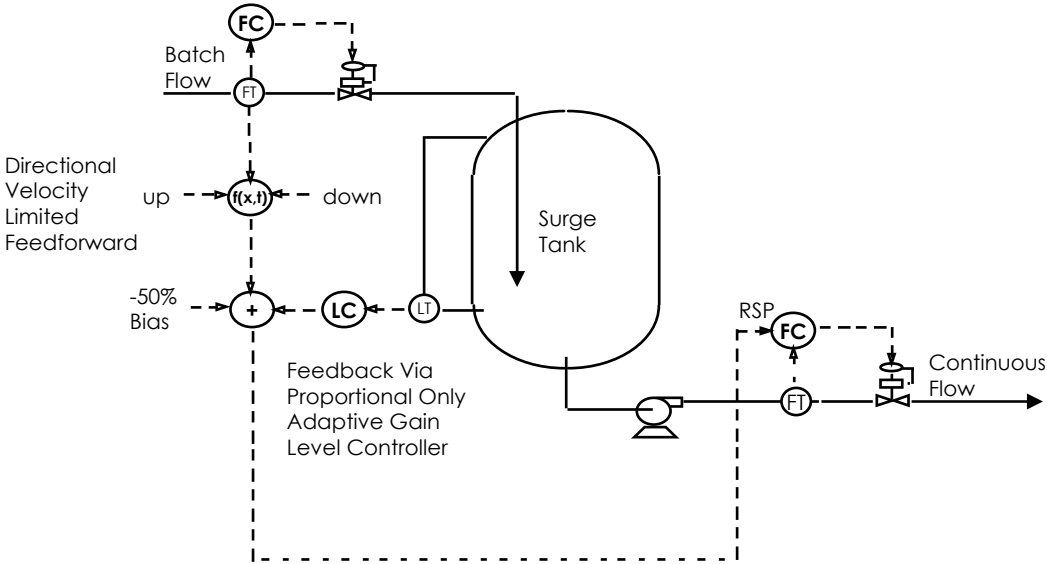
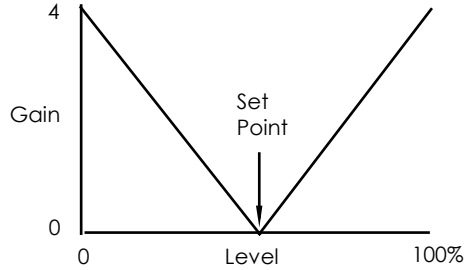


Batch to Continuous Level Transition (Velocity Limited Feed forward)



Feed forward is smoother for slow upsets or adaptation



Gain is proportional to error for error squared control

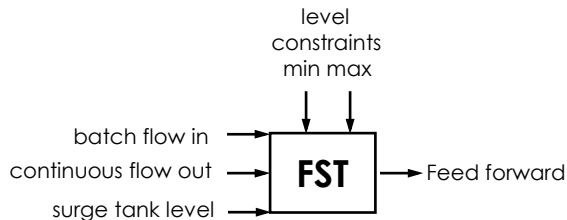
Adaptation of Velocity Limit

Time to violation of level constraint:

$$\Delta t = (K_1 * \Delta L) / (0.5 * \Delta F)$$

Adapted directional velocity limit:

$$\Delta F / \Delta t = (0.5 * \Delta F^2) / (K_1 * \Delta L)$$



ΔF = continuous flow subtracted from the batch flow (gpm)

K_1 = dimension factor that is volume in gallons divided by 100% level span (gal/%)

ΔL = surge tank level subtracted from min or max level constraint (%)

Δt = time to violation of level constraint (minutes)

PRoVOX FST Blocks

