

at

$$Y = 420 \times 7$$

$$= 2940 \sim 3000$$

$$T = 2940 \times 3.5$$

$$= 10230 \sim 10,000$$

$$\begin{array}{r} 2940 \\ 4 \overline{) 3.5} \\ 14700 \\ \underline{8420} \\ 102300 \end{array}$$

For the process. 3 moles chlorine / mole ϕ^2

Let us use $\frac{3 \text{ mole } Cl_2}{4} = \frac{3/4 \text{ mole chlorine}}{1}$

$$X = 0.75$$

∴ For 1st chlorinator

$$\frac{3}{4} = 5 - k_m \left[\left(\frac{4}{1 + k_m / 30} \right) + \frac{3 M_0 / 30}{1 + k_m / 50} \right. \\ \left. + \frac{\phi_0 / 30}{1 + k_m / 300} + \frac{T_0 / 8000}{1 + k_m / 10,000} \right]$$

$$k_m = (1 - A_0) / A_0$$

In the above equation we have two more unknown

DSW 297174

Start on 10-3-73 12(4)

$$\text{Assume } M_{\infty} = D_{\infty} = T_{\infty} = Q_{\infty} = P_{\infty} = 0$$

$$M_0 = \frac{h_m A_0}{1 + h_m / X}$$

$$D_0 = \frac{h_m M_0 / R}{1 + h_m / S} = \frac{h_m \left(\frac{h_m A_0}{1 + h_m / X} \right) / R}{1 + h_m / S}$$

$$T_0 = \frac{k_T D_0}{1 + h_m / Y}$$

$$Q_0 = \frac{T_0 h_m / V}{1 + h_m / U}$$

$$P_0 = \frac{h_m Q_0}{T}$$

DSW 297175

check

$$DCP_{\pm} - DCP_{-} = V_R k_+ DCP CL_2 - V_R k_0 \Sigma MCP CL_2$$

$$DCP = DCP_{\pm} - V_R k_+ DCP CL_2 + V_R k_0 \Sigma MCP CL_2$$

$$DCP = DCP_{\pm} - k_1' DCP/s + k_1' \Sigma MCP/R$$

$$= \underline{DCP_{\pm}} - k_1' \left(\frac{DCP}{s} + \frac{\Sigma MCP}{R} \right)$$

$$(DCP + k_1' (DCP/s)) = DCP_{\pm} + k_1' \Sigma MCP/R$$

$$DCP = \frac{DCP_{\pm} + k_1' \Sigma MCP/R}{1 + k_1'/s}$$

CSTR Egm

$$5CP_{\pm} - 5CP = -V_R k_5 4CP CL_2$$

$$5CP = 5CP_{\pm} + V_R k_5 4CP CL_2$$

$$= 5CP_{\pm} + V_R k_1' 4CP CL_2 / Z$$

$$= 5CP_{\pm} + k_1' 4CP / Z$$

where $Z = 90$.