

#Jenny



Finally I get this ebook, thanks for all these I can get now!

#Rio



Cool! I'am really happy

#Markus Jensen



I did not think that this would work, my best friend showed me this website, and it does! I get my most wanted eBook

#Hun Tsu



wtf this great ebook for free?!

#Che Salsa



My friends are so mad that they do not know how I have all the high quality ebook which they do not!

#Diego Butler



so many fake sites. this is the first one which worked! Many thanks

Ex-1. For a CSTR, equation (21-3) is

$$V = \frac{F_A - F_A}{-r_A}$$

where $-r_A = kC_A$

$$F_A = C_A v$$

So the first equation becomes

$$V = \frac{C_{A0}v - C_A v}{kC_A}$$

Given that $C_{A0} = 0.1 \text{ mol/l}$, $v = 10 \text{ dm}^3/\text{min}$ and $k = 0.23/\text{min}$.

$$V = \frac{C_{A0}v - 0.1 C_{A0}v}{k(0.1)C_{A0}} = \frac{0.09v}{0.023} = \frac{0.9(10 \text{ dm}^3/\text{min})}{0.23} = 391.3 \text{ liters}$$

The CSTR is 4 times larger than the plug flow reactor for these conditions.

91-4 Solution Reaction: $A \rightarrow B$
Problem: Determine time to reduce the number of moles of A to 1% of its initial value.
Mole Balance: (constant volume, batch reactor)
 $\frac{dN_A}{dt} = r_A V$
Rate Law: (first order)
 $-r_A = kC_A$, where $k=23/\text{min}$ and $C_A = \frac{N_A}{V}$
Therefore, $-r_A = k \frac{N_A}{V}$
Combine:
 $\frac{dN_A}{dt} = -kN_A$
 $\int_1^0 \frac{1}{N_A} dN_A = \int_0^t -k dt$
 $\ln \left[\frac{N_A}{N_{A0}} \right] = -k \left[\ln \left(\frac{0.01 N_{A0}}{N_{A0}} \right) \right]$
 $t = \frac{1}{(23/\text{min})} \ln 0.01$
 $t = 20.0 \text{ min.}$

(Solution by J.T. Sandini, Jr.)

1-5

[Download PDF version of :](#)
How To Find Solutions Manuals