

SOLUTION

Unit Settings: SI K kPa kJ mass deg

$A_{\text{walls}} = 1000 \text{ [m}^2\text{]}$
 $\Delta P_{,3} = 4.458 \text{ [kPa]}$
 $\Delta T_{,3} = -1.797 \text{ [K]}$
 $\text{Height} = 2.5 \text{ [m]}$
 $h_1 = 298.6 \text{ [kJ/kg]}$
 $h_3 = 296.8 \text{ [kJ/kg]}$
 $h_{\text{conv}} = 0.015 \text{ [kW/(m}^2\text{*K)]}$
 $h_{\text{in}} = 288.5 \text{ [kJ/kg]}$
 $K = 1.399 \text{ [kg/(s*kPa}^{0.65}\text{)]}$
 $MW_{\text{air}} = 28.97 \text{ [kg/kmol]}$
 $m_1 = 1168 \text{ [kg]}$
 $\dot{m}_3 = 3.697 \text{ [kg/s]}$
 $\dot{m}_{\text{in}} = 3.697 \text{ [kg/s]}$
 $n_1 = 40.34 \text{ [kmol]}$
 $P_1 = 100 \text{ [kPa]}$
 $P_3 = 104.5 \text{ [kPa]}$
 $P_{\text{atm}} = 100 \text{ [kPa]}$
 $P_{\text{in}} = 110 \text{ [kPa]}$
 $\dot{Q} = 3.5 \text{ [kW]}$
 $\rho_1 = 1.168 \text{ [kg/m}^3\text{]}$
 $\rho_{\text{supply}} = 1.33 \text{ [kg/m}^3\text{]}$
 $R_{\text{air}} = 8.314 \text{ [kPa-m}^3\text{/kmol-K]}$
 $s_{\text{in}} = 5.638 \text{ [kJ/kg-K]}$
 $T_1 = 298.2 \text{ [K]}$
 $T_3 = 296.4 \text{ [K]}$
 $T_{\text{in}} = 288.2 \text{ [K]}$
 $t_{\text{start}} = 0 \text{ [s]}$
 $t_{\text{stop}} = 300 \text{ [s]}$
 $u_1 = 213 \text{ [kJ/kg]}$
 $\dot{V} = 2.78 \text{ [m}^3\text{/s]}$
 $V_{\text{room}} = 1000 \text{ [m}^3\text{]}$
 $\text{Width} = 20 \text{ [m]}$
 $W_3 = -26.96 \text{ [kW]}$

No unit problems were detected.

EES suggested units (shown in purple) for h_1 h_3 h_{in} MW_{air} m_1 n_1 .