"ME-5427 Introduction to Turbomachinery"
"Zhaoyi Jiang(.1364)"

"HW1 P4"

"Inlet"
t1=293[k]
p1=1[bar]
v1=50[m/s]
h1=enthalpy(air,t=t1)
h01=h1+0.5*v1^2*convert(j,kj)
s1=entropy(air,h=h1,p=p1)
t01=temperature(air,h=h01)
p01=pressure(air,h=h01,s=s1)

"Exit"
t2=295[k]
p2=1[bar]
v2=150[m/s]
h2=enthalpy(air,t=t2)
s2=entropy(air,h=h2,p=p2)
h02=h2+0.5*v2^2*convert(j,kj)
t_02=temperature(air,h=h02)
p02=pressure(air,h=h02,s=s2)

SOLUTION
Unit Settings: SI K bar kJ mass deg

h01 = 294.7 [kj/kg]	h02 = 306.7 [kj/kg]	h1 = 293.4 [kj/kg]
h2 = 295.4 [kj/kg]	p01 = 1.015 [bar]	p02 = 1.139 [bar]
p1 = 1 [bar]	p2 = 1 [bar]	s1 = 5.682 [kj/kg-k]
s2 = 5.689 [kj/kg-k]	t01 = 294.2 [c]	t1 = 293 [K]
t2 = 295 [K]	t_{02} = 306.2 [c]	v1 = 50 [m/s]
v2 = 150 [m/s]		

No unit problems were detected.