

{plot T-s, p-v, and h-s diagrams}

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Tf=temperature(STEAM_NBS,p=px,x=0)
sf=entropy(STEAM_NBS,p=px,x=0)
hf=enthalpy(STEAM_NBS,p=px,x=0)
vf=volume(STEAM_NBS,p=px,x=0)
Tg=temperature(STEAM_NBS,p=px,x=1)
sg=entropy(STEAM_NBS,p=px,x=1)
hg=enthalpy(STEAM_NBS,p=px,x=1)
vg=volume(STEAM_NBS,p=px,x=1)
pcr=p_crit(STEAM_NBS)
px=7
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eta_p=0.85
eta_t=0.75
T[1]=350
p[1]=p_sat(STEAM_NBS, T=T[1])
h[1]=enthalpy(STEAM_NBS,T=T[1],x=1)
s[1]=entropy(STEAM_NBS,T=T[1],x=1)
v[1]=volume(STEAM_NBS,T=T[1],x=1)
p[2]=7
s2i=s[1]
h2i=enthalpy(STEAM_NBS,s=s2i,p=p[2])
eta_t=(h[1]-h[2])/(h[1]-h2i)
v[2]=volume(STEAM_NBS,h=h[2],p=p[2])
s[2]=entropy(STEAM_NBS,h=h[2],p=p[2])
T[2]=t_sat(STEAM_NBS,p=p[2])
p[3]=p[2]
T[3]=T[2]
h[3]=enthalpy(STEAM_NBS,p=p[3],x=0)
s[3]=entropy(STEAM_NBS,p=p[3],x=0)
v[3]=volume(STEAM_NBS,p=p[3],x=0)
p[4]=p[1]
s4i=s[3]
h4i=enthalpy(STEAM_NBS,s=s4i,p=p[4])
eta_p=(h4i-h[3])/(h[4]-h[3])
T[4]=temperature(STEAM_NBS,h=h[4],p=p[4])
v[4]=volume(STEAM_NBS,h=h[4],p=p[4])
s[4]=entropy(STEAM_NBS,h=h[4],p=p[4])
h[5]=enthalpy(STEAM_NBS,p=p[1],x=0)
s[5]=entropy(STEAM_NBS,p=p[1],x=0)
v[5]=volume(STEAM_NBS,p=p[1],x=0)
p[5]=p[1]
T[5]=T[1]
T[6]=T[1]
p[6]=p[1]
v[6]=v[1]
h[6]=h[1]
s[6]=s[1]
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