

ST_limit(7)

☞ Reference: C:\Program Files\MathSoft\Mathcad 2001 Professional\steam\cycle\Rankin.mcd

P := 3200

In := ST_ptdata(P, 1200, 1, 1) Xh := 20

cy := Rankine_c(In, 6%, Xh, 8%, P)

$$cy = \begin{pmatrix} 7.71429 & 3200 & 3200 & 231.87412 & 20 & 714.48114 \\ 0.08 & 1200 & 1233.298 & 471.7818 & 420.87497 & 1472 \\ 0.06 & 0.28275 & 0.29078 & 2.24248 & 26.06276 & 1.59507 \\ 1.22717 & 1402.90477 & 1419.77811 & 1152.92504 & 1152.68759 & 1567.13679 \\ 0 & 1570.33545 & 1591.96441 & 1249.14573 & 1249.14573 & 1778.02823 \\ 0.10414 & 1.57485 & 1.58776 & 1.58776 & 1.8511 & 1.8511 \\ 0.89586 & 1 & 1 & 1 & 1 & 1 \end{pmatrix}$$

$$\text{CycleEff}(cy) = 23.02069\% \quad \frac{\text{CycleWO}(cy) \cdot J \cdot 3600}{cy_{v,ex} \cdot 12 \cdot 12 \cdot 12 \cdot 60 \cdot 550} = 6.36466 \quad \text{HP/cuin @3600RPM}$$

$$\frac{90}{\frac{\text{CycleWO}(cy) \cdot J \cdot 3600}{cy_{v,ex} \cdot 12 \cdot 12 \cdot 12 \cdot 60 \cdot 550}} = 14.14058$$