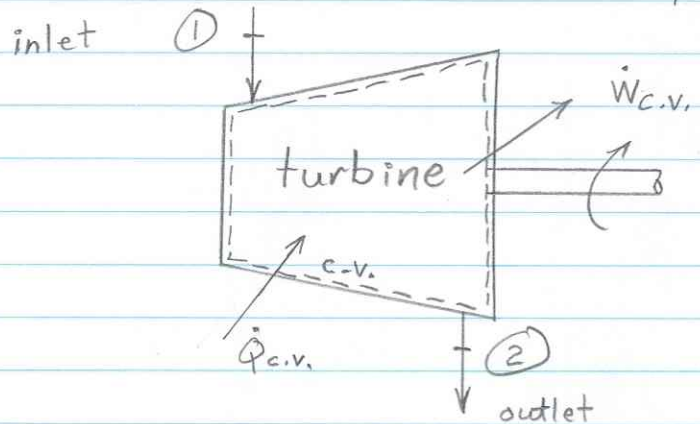
Example: Problem 6.40, Steam Turbine

- purpose: to produce mechanical power



Assumptions:

1. Steady state, steady flow
2. $\dot{Q}_{c.v.} = 0$
3. $\Delta PE = 0$

Work output $\dot{W}_{c.v.}$ is through a rotating shaft: $\dot{W}_{c.v.} = \dot{W}_T$

state 1	state 2
$P_1 = 1000$ kPa	$P_2 = 100$ kPa
$T_1 = 350$ °C	
$\bar{V}_1 = 15$ m/s	$\bar{V}_2 \simeq 0$ m/s
	$x_2 = 1.0$

$\dot{m}_1 = 2$ kg/s

water