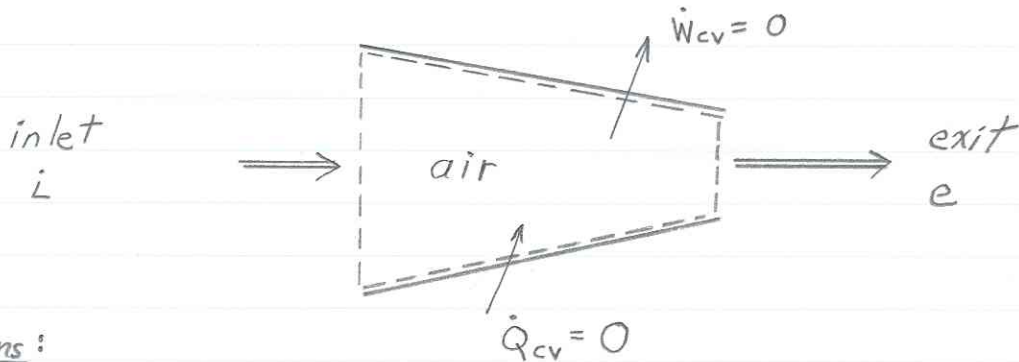


## Nozzle

purpose: to increase the flow velocity

### Problem 6.23



#### Assumptions:

1. SSSF
2.  $\dot{Q}_{cv} = 0$
3.  $\Delta p_e = 0$
4. ideal gas
5. constant  $C_p$

inlet

$$\begin{aligned}T &= 1000 \text{ K} \\P &= 200 \text{ kPa} \\\bar{V} &= 30 \text{ m/s}\end{aligned}$$

exit

$$\begin{aligned}T &= 850 \text{ K} \\P &= 90 \text{ kPa}\end{aligned}$$

Determine:  $\bar{V}_{exit}$