STEADY FLOW: NOZZLES AND DIFFUSERS

- A nozzle is a device that increases the velocity of a fluid at the expense of pressure.
- A diffuser is a device that increases the pressure of a fluid by slowing it down.
- These devices typically feature one inlet and one outlet.

CV analysis

Choice of the CV:

Conservation of mass:

Under steady flow:

Energy balance:

Simplifications:
- Steady flow:
- No shaft work:
- No change in elevation:

Reduced energy equation:

Adiabatic case: \[
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