Model Formulation

# Two-Phase Tank Drain Model

Assumptions:

* Thermal equilibrium (uniform temperature)
* No heat transfer through the tank walls
* Fluid flowing out has negligible kinetic energy
* Two-phase equilibrium

A control volume is defined as the tank volume. A mass flow out of the tank drains liquid.

Conservation of mass:

Conservation of energy:

# Two-Phase Tank Vaporization Model

Conservation of mass:

Conservation of energy: