

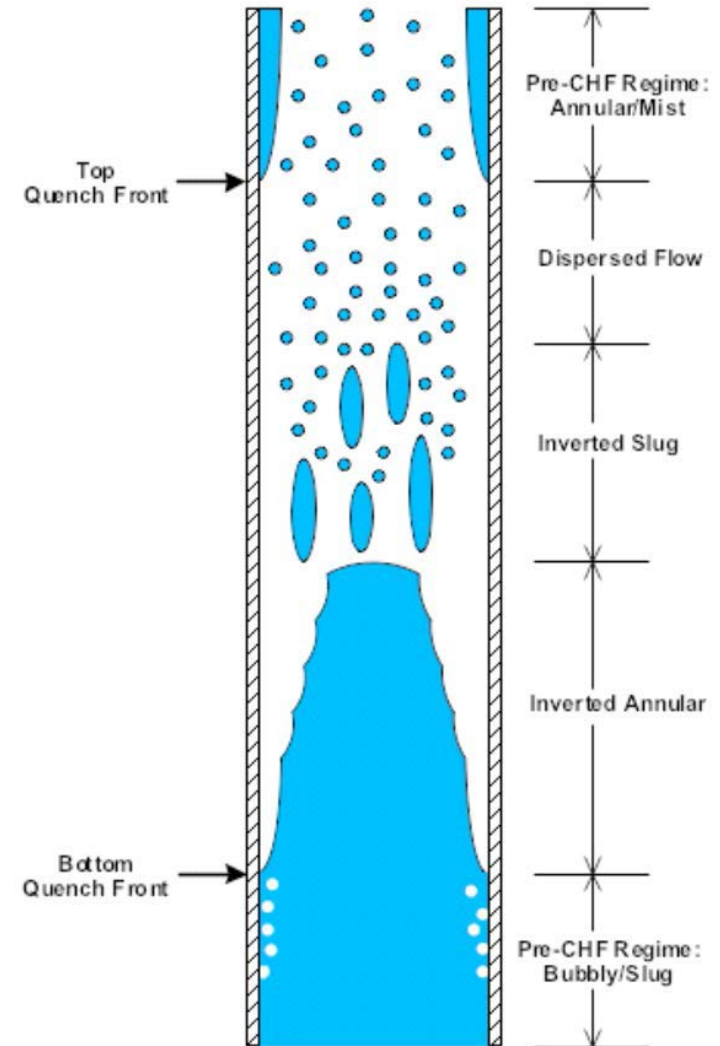
Post-CHF Heat Transfer (PCHT) Test Facility

- Research Objectives

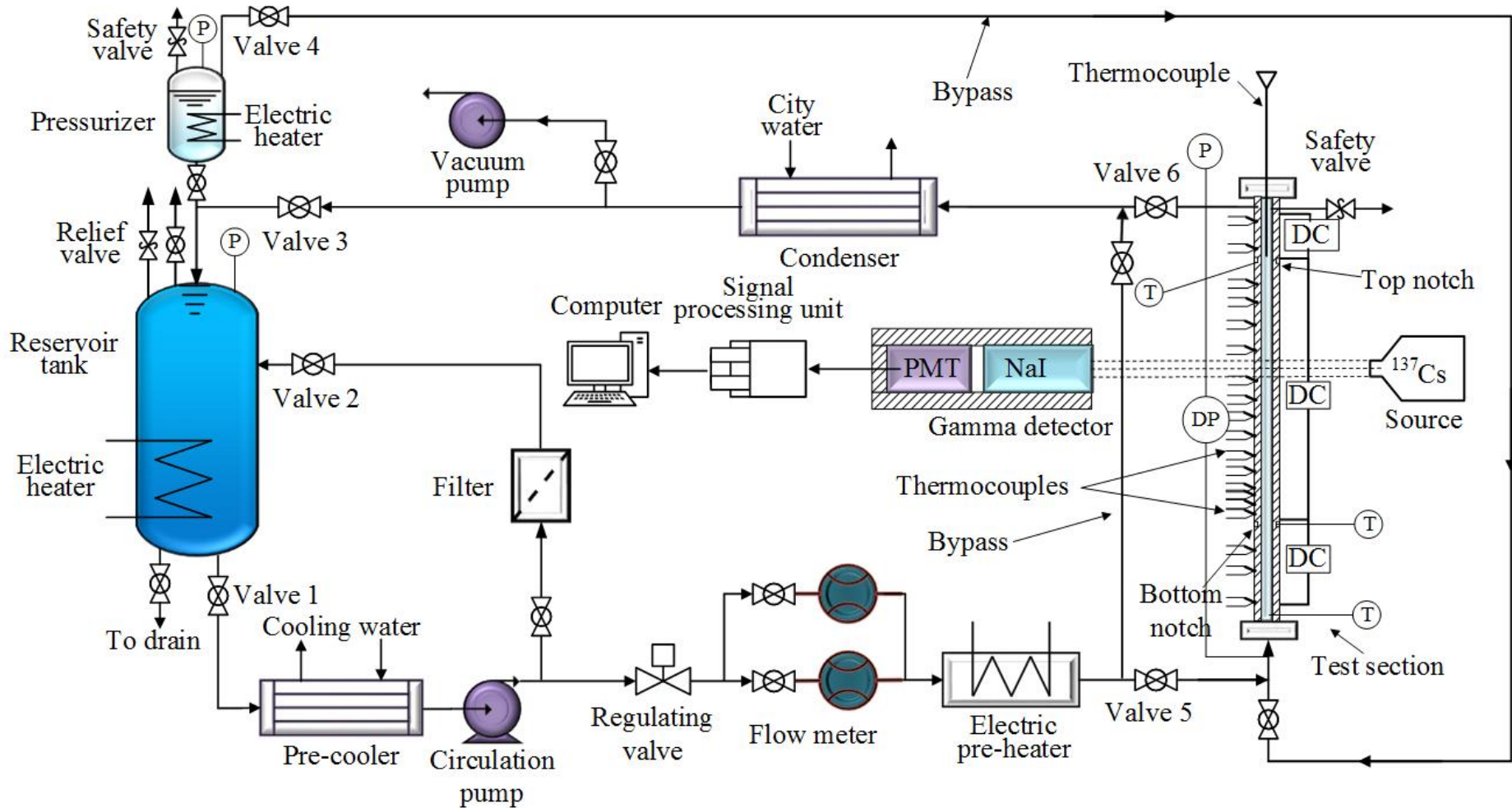
- To provide experimental data necessary for improvement of the models for IAFB and ISFB regimes in TRACE
- Investigate flow regime transition criteria from IAFB to ISFB and ISFB to DFFB

- Experimental Conditions

- Pressure: 0.14 to 3.4 MPa (20 to 500 psi)
- Mass flux: 150 to 2,000 kg/m²-s
- Inlet subcooling: up to 50°C



PCHT Flow Loop Design



PCHT Test Facility Design (Cont'd)



PCHT Test Section Design

- Tubular Test Section: Joule Heating
 - Material: Incoloy 800H/HT
 - Three DC power supplies
- Hot Patch Technique
 - Bottom and top notches
 - Thin-wall notch → Large local heat flux
- Instrumentation
 - X-ray radiography system
 - Gamma densitometer
 - Pyrofiber[®] automatic emissivity correcting IR thermometer
 - Flowmeters, pressure and differential pressure transducers, RTDs, thermocouples

