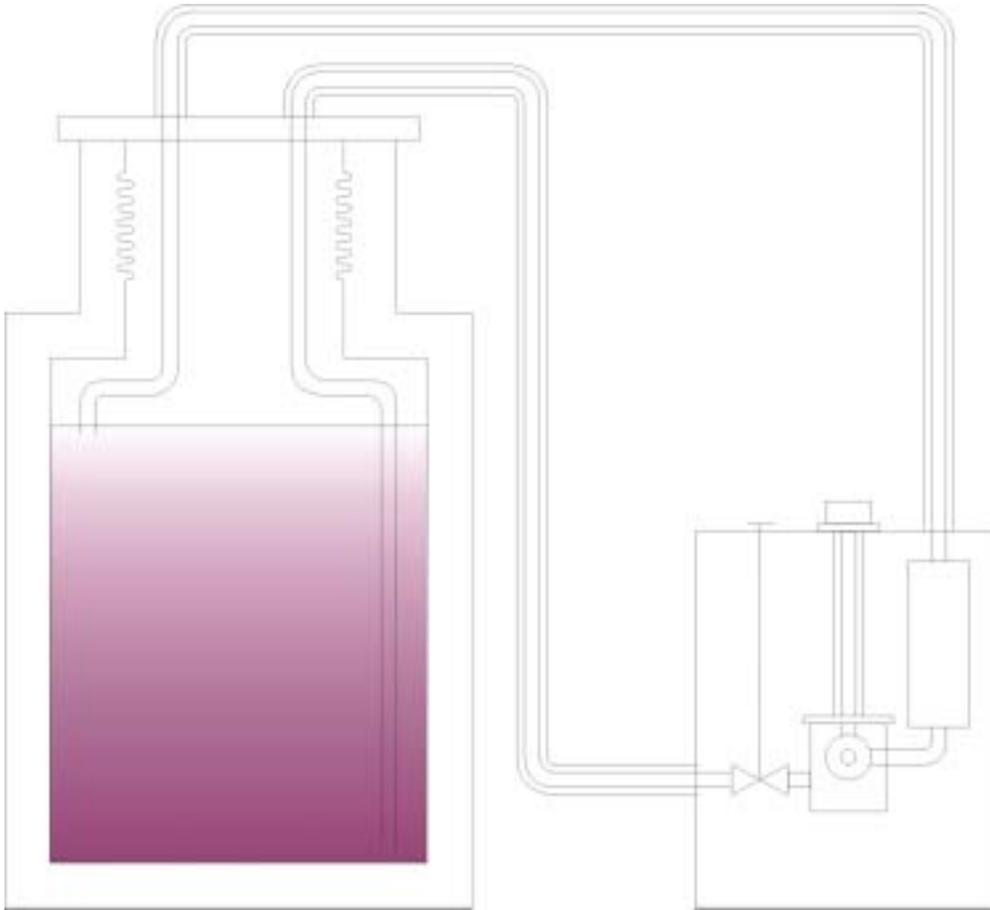
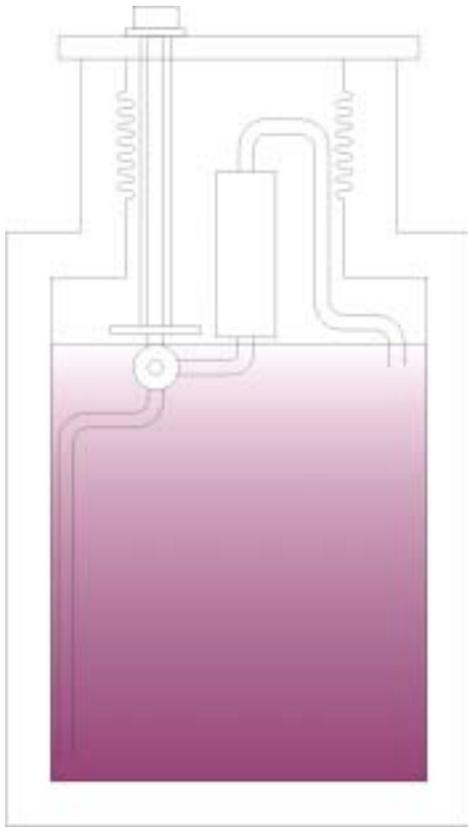


# Liquid Phase Purification scheme 1



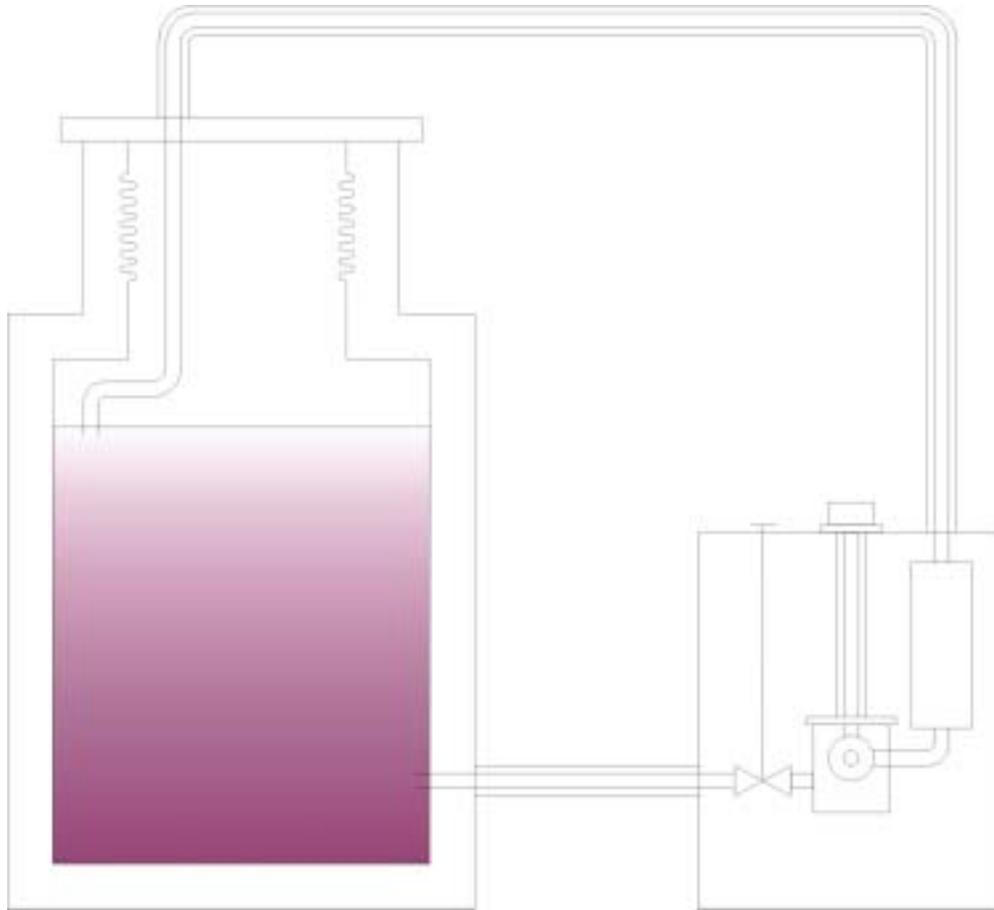
- Siphon to extract xenon for feeding to the purifier
- Merit
  - No heat load generated at the bottom of the chamber
- Demerit
  - Cavitation can damage the pump if the pipe is not filled with liquid xenon or if xenon evaporates in the pipe.

# Liquid Phase Purification scheme 2



- Pump and purifier in the chamber
- Merit
  - Very simple
  - No worry about heat load
- Demerit
  - Need to recover xenon for maintenance of the purifier/pump.

# Liquid Phase Purifier scheme 3



- Xenon from the bottom bypass the wall to the pump/purifier.
- Merit
  - Easy maintenance
- Demerit
  - Possible heat load to the bottom
  - Next slide

# Realization of the system

- Verification of liquid phase purification by adopting the “scheme 2”.
  - Large Prototype is the best to show the purification performance
- Long term operation in the final detector by adopting the “scheme 3”.
  - Heat load to the bottom must be minimized

