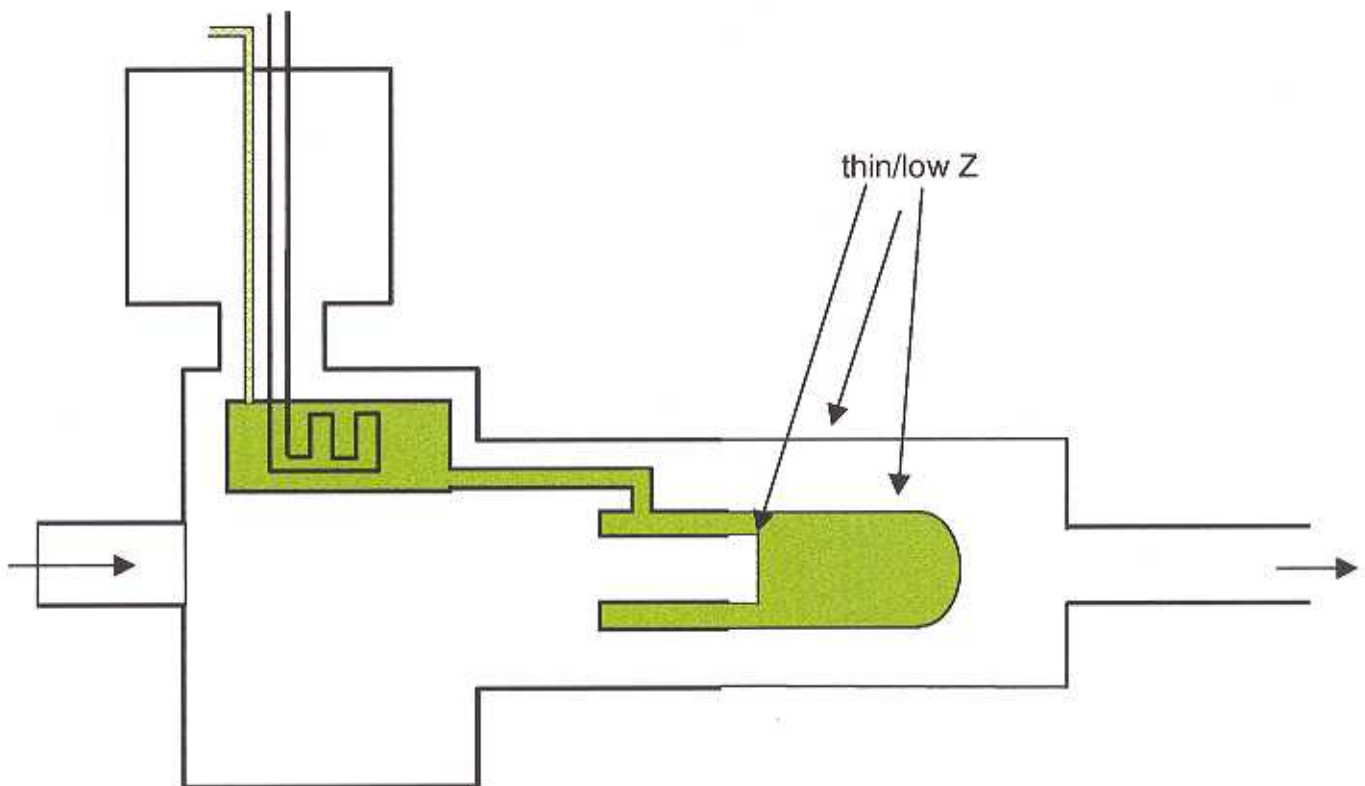


Hall D Cryogenic Target

Low Power (800mW) - Convection only removes heat from cell
Small - few hundred cm³, minimal fire hazard
Similar to existing Hall B cryogenic target

General Features:

- cell/entrance window
- isolation vacuum / scattering chamber
- condenser
- service module (cryogenics/gas in/out)



Mechanism to introduce solid target(s) - minimize blocking detector acceptance

May operate from stand-alone refrigerator or from 4K liquid drawn from a dewar. (Hall B - buffer dewar).

Controls, gas handling system, means of positioning and alignment.

Questions:

Will helium (3 or 4) targets be used ?

How accurately must target density, thickness and location be known ?

How many different solid targets will be required ?

Where can solid targets be located ? (upstream/downstream of cell) Design report suggests removing the hydrogen target to introduce solid targets - very time consuming.

Some blockage of the veto detector is unavoidable. How much is acceptable ? Trade off may complicate target design/operation.

How will the start and vertex detectors be mounted ? (To the target OVC ?)

A rail system will be needed to insert the target. How will this impact detector assembly/disassembly ?

Buffer dewars have been used to supply the Hall B cryogenic target and other small cryostats (polarized targets). Duplicate ? Standard CEBAF delivery system is 1-3/8" od bayonet supplying 3 atm 4.5K vapor to a JT valve - not very convenient for small loads.

The Hall D and Hall B cryogenic targets could be very similar. Try to make them ~ identical ? (Spares, trained operators, operating experience, engineering and design effort).