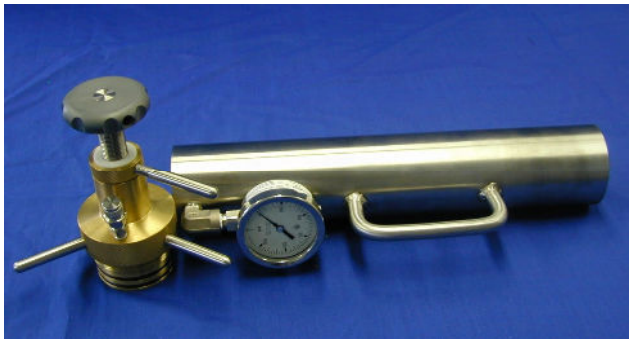
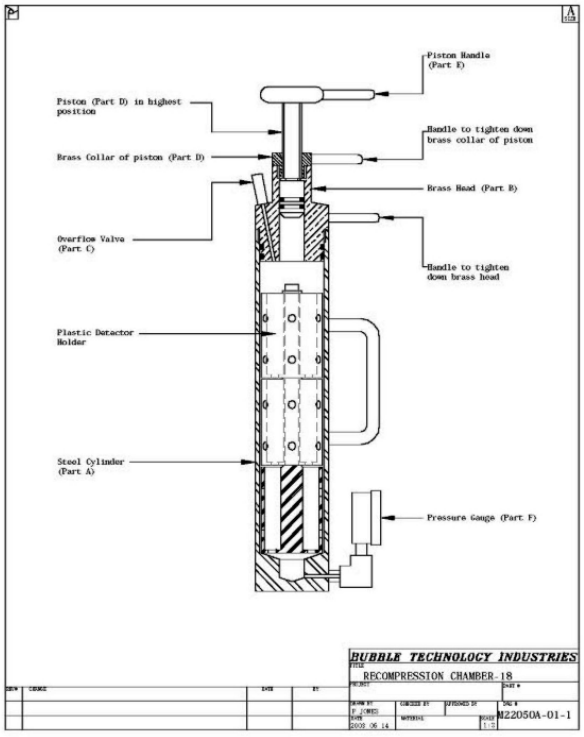
RC-18
BDS Recompression Chamber





Technical Specifications

Size: 48 cm x 14 cm h x dia. (19 in x 5.5 in)
Weight: 6.8 kg (15 lbs)
Construction: Stainless steel/brass/plastic
Chamber Capacity: 18 BDS
Maximum pressure: 1000 psig @ 20 C water filled

BDS

The BDS (**B**ubble **D**etector **S**pectrometer) is based on specially formulated bubble detectors that have different neutron energy thresholds. Similar to fast-neutron activation detectors, the measured spectrum from the BDS is derived by "unfolding" the response of the different detectors of the BDS. The BDS provides spectra in six energy bins. It has two very important properties – it is completely insensitive to gamma rays allowing it to be used in areas with intense gamma background and since it is passive, it can be used in pulsed radiation fields. The BDS should be used whenever one wants to know something about the energy of the neutron field, especially where the neutron field is only a very small fraction of the total radiation field. The BDS has been used to determine the neutron spectrum in space and is often used in connection with pulsed reactor operations and for assessing the neutron field from medical (or research) accelerators.

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To recompress (re-zero) the bubbles in the BDS after an exposure, a hydrostatic pressure chamber is available. 18 BDS, in a plastic holder, are placed in the RC-18 and the chamber is filled with water. Pressure is applied safely and easily with a screw down piston assembly. 18 BDS can be recompressed at one time in the RC-18, with recompression time in the order of 30 minutes.

Note that the RC-18 is not required for BD-PND or BDT.

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