

URM Pressure Equalizing System

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SNO+ designed an Umbilical Retrieval Mechanism (URM) to deploy radioactive sources for the calibration of the detector. The sealed URM must maintain a near zero differential pressure between itself and the air pressure in the underground laboratory thus requiring a Pressure Equalizing System.

The Pressure Equalizing System consists of a Cover Gas Bag designed to adjust its volume to counteract any pressure changes. The Bag has a “pillow” shape and flexseal coating for additional protection from the labs activities and to minimize potential failures. The frame for the Cover Gas Bag is designed with track rollers and guide rails to allow the bag to move freely while in operation to prevent creasing and indentation around the flange.

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