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Core Lab

Mercury Free Spikeflash Datasheet

Fluid Characteristics



Mercury Free Spikeflash



The Spikeflash instrument is design to allow for the safe flashing of pressurised samples to atmospheric pressure at elevated temperature whilst allowing the collection of both the liquid and gaseous phases for further evaluation. The Spikeflash unit consists of two temperature controlled Air baths (a Separation Oven and a Coil Oven), a temperature controller Enclosure, a Spikeflash flask (for the collection of the liquid phase), stainless steel and copper tubing, various stainless steel valves and a Gasometer.

The Separation Oven is the upper of the two ovens. The oven is open at the base and is bolted directly onto the Coil Oven top surface. The sample to be separated is introduced into the separation oven from its storage cylinder via the inlet bulkhead mounted on the left hand side (when viewed from the front) of the unit. The sample inlet bulkhead uses 1/8" tubing fittings and is connected to the inlet valve by a small length of 1/8" stainless steel tubing. The inlet valve is used to regulate the flow of the sample. The gas from the sample exits the flask via the corrugated stainless steel tube and enters the Coil Oven through the inter-oven bulkhead, leaving the liquid fraction in the flask.



The Coil Oven consists of two parts, the Oven and a Fan Enclosure. The operator may adjust the safety temperature via the control knob mounted on the fan Enclosure. The cut out temperature should be set to 10 to 15 degrees Celsius above the process controller temperature. Connected to the roof of the oven is the helium storage and partition coil. This consists of 3 separate lengths of copper tubing, connected together and formed into a single coil with an approximate volume of 7,500 cc. One end of the coil is connected to the Inlet bulkhead via the inlet plumbing. The inlet plumbing consists of the inter-oven bulkhead which connects to the Separation Flask Isolation valve via a length of stainless steel tubing which has been formed into a liquid trap. Immediately after the inlet valve is the Gas Sub-sample Quick-connect and the stainless steel pre-coil. The pre-coil connects directly to the copper coil. The copper coil outlet is connected to the remaining two valves. The helium isolation valve connects to the Helium Inlet/Outlet hose bib which allows the plumbing to be evacuated and be helium filled. The Gasometer Isolation Valve connects the copper coil to the Gasometer via a length of stainless steel tubing.

A Gasometer is mounted to the Spikeflash oven. The Gasometer is a Mercury Free unit utilising Fluorocarbon seals as opposed to the Hg seals used in other Gasometers. The Gasometer can collect up to 3000cc of helium displaced by the produced gas.