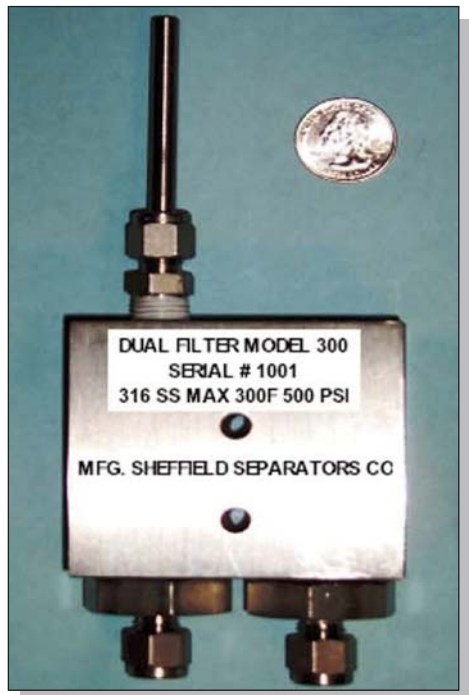


# The Sheffield Kinetic Dual Filter -- SS-300 Series

"...the process sample presented to the process analyzer should be of similar quality to the calibration material presented to the analyzer..." – from *Process Analyzer Sampling-Conditioning System Technology* by Robert E. Sherman.



**Improvements to the Sample Handling System are the single most important decision concerning Analyzer System Life Cycle Cost.** Most Sample Conditioning Systems employ a large filter or a separator in the fast loop to prefilter the sample before it enters the Sample Conditioning Panel. A single 2<sup>1</sup>/<sub>4</sub>" filter is normally used in the panel which has only one choice of porosity and is very poor at removing condensables.

The **Sheffield Dual Chamber Filter** uses two (2) x 2<sup>1</sup>/<sub>4</sub>" standard filters to provide twice the surface area without significantly increasing lag time. The filters are configured in series to allow for graduated filtration i.e., high porosity (e.g. 15 micron) followed by a polishing (e.g. 2 micron). Both filter chambers employ kinetic energy to force a complete reversal of the analyzer sample flow while the remainder of the sample is directed to low pressure return. Heavier particulate and free water will not negotiate flow reversal; clean sample will move upward. This significantly improves separation and cleaning of the analyzer sample. Condensables and particulate will be removed through the exit tubing of both chambers, adding to the efficiency and life of the filters. Although kinetic energy will separate impurities, it will not alter the chemical composition of the sample.

The **Sheffield Dual Chamber Filter** is extremely versatile. It may be utilized as a replacement for existing filters to remove solids and impurities from gas and liquid samples. It will separate liquids from gas samples and remove free water from liquid samples.

This economical replacement unit will minimize the downtime of analytical systems and decrease Gas Chromatograph valve maintenance. Replacement of existing Sample Conditioning devices requires very little manpower or cost. This is the only patented kinetic filter assembly. See **Back Side** for cut-away and installation drawing.

#### **SPECIFICATIONS:**

Max. Pressure: 500 PSIG  
Max. Temperature: 300°F  
Max. Flow: 25 SCFH - 10 GAL/HR  
Pressure Drop: 2 PSIG  
Materials of Construction: 316 SS  
Dimensions: 1.5" x 3" x 3"  
Inlet: 1/4" TUBE  
Outlet to Analyzer: 1/8" TUBE LIQ  
1/4" TUBE GAS  
United States Patent #6,444,001

