



The Sheffield SS 1200-GF-S2-DG

A stainless steel, 12” separator in liquid service
with 10” hydrophobic filter and 2.25” pure
PTFE Teflon® filter

Designed and built to remove gas contamination from
liquid samples

The **SS 1200-LF-S2-DG** is recommended for liquid samples with heavy gas contamination. These uniquely demanding applications require the highest liquid-gas separation.

The **1200-LF-S2-DG** reverses the role of kinetic energy separation to separate the heavy liquids as components of interest from the gas contaminants.

The 10” hydrophobic filter in the first chamber separates the gas from the liquid in the fast loop. Any residual carryover of gas is separated kinetically in the second chamber. The liquid sample is further polished by the 2.25” Borosilicate glass Fluorocarbon filter with a resin binder. This unique material is generally recognized as the best filter material to remove gas from liquids.

Kinetic Separation Technology is the most innovative technology available today for sample conditioning.

The Sheffield patented dual chamber separator provides maximum separation of heavy particulate. Although kinetic energy will physically separate impurities, it will not alter the chemical composition of the sample.

Features		Benefits
Extremely Versatile		Operates across a wide range of pressure, flow rates, and temperatures
Hydrophobic Fluorocarbon Teflon® lined filters		Can handle significant amounts of free water or particulate without clogging
Requires no utilities		Can be used anywhere
Operates at 2psi or less differential pressure		Will not push water through the hydrophobic filter
Dual chamber construction		Maximizes filtration and separation: longer filter life
No moving parts		Less maintenance, greater reliability
Straight fittings with O-ring seals		Easier filter changes
No internal obstructions in first chamber		Minimal backpressure

Also available as a component of the Sheffield Separator Sample Conditioning System Panel



The Sheffield Separator uses kinetic energy to separate the representative analyzer sample from impurities found in a process stream. This is accomplished by establishing a flow path through the 1st chamber and reversing the flow of a relatively small Bypass sample. Solid contaminants and immiscible liquids in the liquid samples will not negotiate this complete reversal of flow direction and exit the bottom of the separator. The Kinetic Energy caused by this reversal initially removes the impurities from the Bypass stream through gravity and inertia. To further effect this separation and filtration a second kinetic chamber with a hydrophobic filter polishes the sample. The second chamber also experiences Kinetic Separation and removes the remaining impurities from the slip stream. The sample is lighter than the immiscible liquids and solids (particulates) in liquid samples.

How it Works

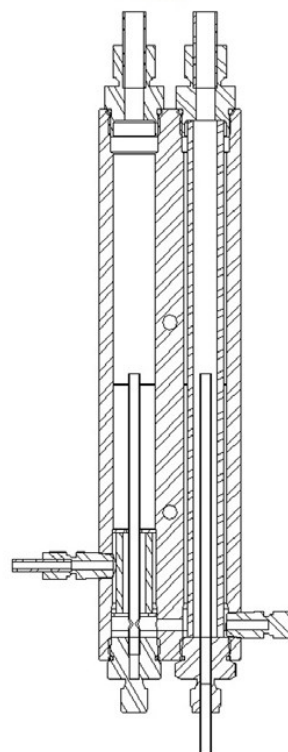
S 1200-LF-S2-DG

Stainless Steel Liquid Filter with 2 Filters in Series

The **SS1200-LF-S2-DG** model separator reverses the orientation of the chambers to allow the heavier liquid phase fast loop sample to enter the lower inlet of the first chamber. This stream reverses direction and flows back down to the Inlet of the Second Chamber. Gas that was part of the original fast loop continues upward and is removed through rotameters at the uppermost end of the first chamber.

The **First Chamber** of the Sheffield Kinetic Separator is designed for installation directly in-line to the Fast Loop sample transport system or in the Bypass Loop. Most of the contaminants are separated in the first chamber. This chamber is aided with a special 10" 2 or 15 micron Teflon®-lined, hydrophobic, self-cleaning low pressure drop filter.

The **Second Chamber** separates and filters only the relatively small amount of Slip Stream sample going to the analyzer which greatly enhances filter life. The 2.25" Borosilicate glass Fluorocarbon filter element in the bottom of this chamber allows the final gas contaminants to separate from the liquid. The remainder of the upper chamber allow the knock out effect to further separate and remove very small bubbles with the fast loop. Finally, both chambers exit the top of the separator to a common juncture with the return flow or vent.



SPECIFICATIONS

Maximum Pressure: 2,000 PSIG

Minimum Pressure: 2 PSIG - Vacuum application
with pump or eductor

Maximum Temperature: 300° F

Pressure Drop: 2 PSIG

Flow Rate:

The flow rate specified for the sample system is sufficient for the separator. For best results, the first chamber flow should exceed that of the second chamber.



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Teflon® is a registered trademark of E.I. DuPont

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Patent # 6,444,001 of the Sheffield Kinetic Separator (other patents pending. Sheffield Separator Trade mark 2009. Copyright 2015