**Mott Sampling Filter**

**Operating Principle as Sampling Filter**

The gas or liquid to be sampled is introduced at the mainstream inlet and accelerates as it passes the filter, due to the reduced flow passage. This increased velocity puts the filter into an inertial mode. Plugging is minimized, since particulate matter in the mainstream is directed parallel to the filter tube rather than incident to the porous media.

**Filter Applications**

- Particulate-free sampling.
- Liquid analysis.

**Advantages**

- High differential pressure capability.
- Wide range of porosities.
- Self-cleaning for long on-stream life.
- Simple, all stainless-steel assembly.
- Uniform permeability.

**Operating Principle as Sparger or Gas/Liquid Contact**

Liquid is introduced at the mainstream inlet and accelerates around the porous element. Gas is injected at left, through the porous tube, creating extremely fine bubbles. As these bubbles emerge from the porous tube, they are continuously sheared by the liquid – further reducing their size and increasing the gas/liquid interface. Bubble size can be varied by adjusting velocity. Higher velocities result in higher shear rates and finer bubble size.

**Sparger Applications**

- Carbonation, aeration, hydrogenation.
- Injection of air, oxygen, hydrogen or other gases for gas/liquid reactions.

**Advantages**

- Uniform permeability for consistent bubble size.
- Dynamic reduction of bubble size for maximum efficiency.
- High efficiency from bubble shear reduces sparger size required.

**Standard Filter Availability**

**Series No.** – 8501 Filter

**Fitting Size**

<table>
<thead>
<tr>
<th>(A) - Mainstream NPT</th>
<th>(B) - Filtrate Outlet Gas Inlet NPT</th>
<th>(D) - Porous Diameter</th>
<th>(L) - Impingement Tube Length</th>
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**Lengths** 6", 12", 18", 24", 36"

**Media Grades** 0.5, 2, 5, 10, 20, 40

**Spare Parts Options: Replacement Elements**

**Elements** Series No. 850

**Fitting Size**

<table>
<thead>
<tr>
<th>(A) - Male NPT</th>
<th>(B) - Female NPT</th>
<th>(D) - Porous Diameter</th>
<th>(L) - Impingement Tube Length</th>
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