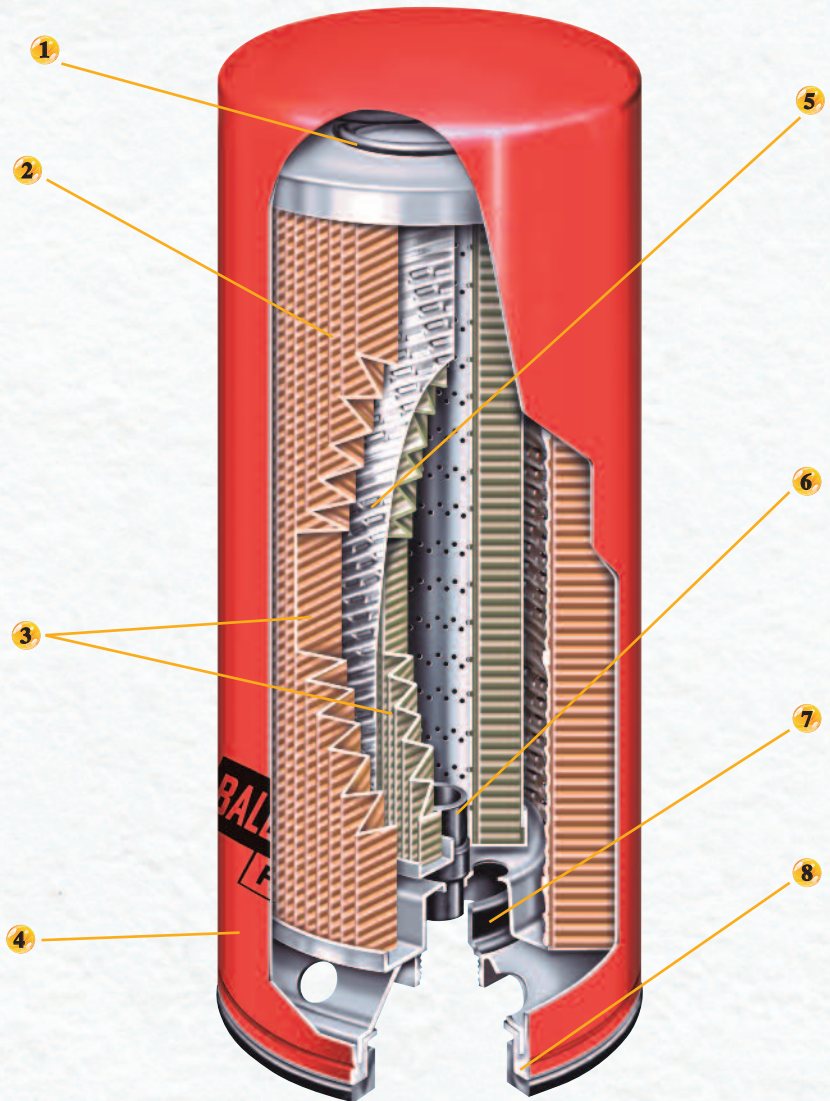


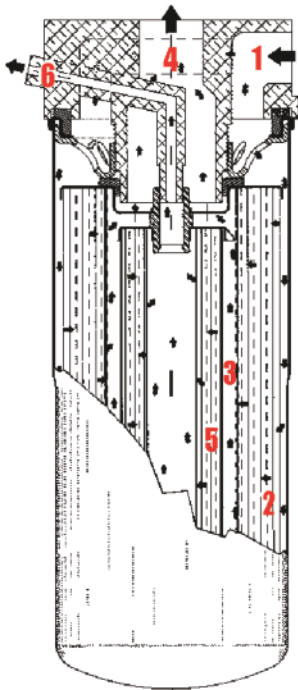
# Series Design - BD103

- 1 Steel Coil Spring**  
keeps its shape, maintaining a positive load pressure on the adapter seal.
- 2 Cellulose/Synthetic Blend Media**  
specifically developed to increase structural strength, efficiency and contaminant capacity.
- 3 Patented Series Design**  
provides up to 43 percent more filtering surface to increase contaminant holding capacity and element life. Full-flow and by-pass elements run almost the full length of the filter enclosure.
- 4 Heavy-Duty, All-Metal Housing**  
provides unequalled burst- and pulse-withstanding strength.
- 5 Spiral Wound Louvered Centertube**  
with fluted ribs allows for maximum flow and adds strength to resist pressure surges.
- 6 Radial Post Seal**  
separates the full-flow portion of the filter from the by-pass.
- 7 Full-Flow Spud Seal**  
separates the clean oil from the dirty return oil.
- 8 Heavy-Duty Baseplate**  
is joined to the can with a double-rolled, tuck lock seam to resist leakage due to high pressure and vibration.



SAE HS806 laboratory tests prove Baldwin Filters' BD103 surpasses the LF3000 in contaminant holding capacity and contaminant removal efficiency. The unique integral series design of the BD103 provides maximum filtration while the heavy-duty construction insures dependable operation. Tests and more than 70 billion field miles substantiate the BD103's superior performance claims.

# BD103 Continues to Provide More Efficiency and Life Than the LF3000 With Stratapore™ Media



The results speak for themselves. Extensive life and efficiency tests and billions of miles of actual use prove the BD103 outperforms the LF3000. The patented “series” design and the cellulose/synthetic blend media are central to the filter’s increased contaminant holding capacity and longer element life. In the BD103, all oil passes through the full-flow element instead of just part of it as with “parallel” designs. The full-flow/by-pass

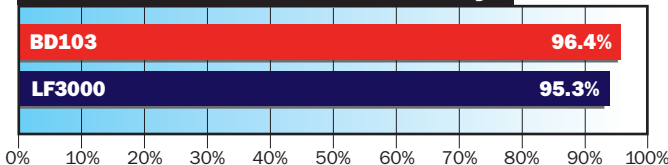
technology of the BD103 offers up to 43 percent more full-flow surface for greater contaminant holding capacity. Higher efficiency means less damage-causing contaminants pass through the filter to sensitive components, leading to longer and more efficient system life. Increased capacity extends filter life without decreasing filter efficiency.

## HOW THE BD103 WORKS

- 1. All dirty engine oil enters here.**  
Baldwin’s integral series design places the by-pass element inside the full-flow element instead of stacking the two elements as in standard parallel designs.  
This allows both elements to occupy almost the full length of the filter housing and provides additional filtration area.
- 2. Oil passes through the full-flow element.**  
All oil passes through the full-flow element instead of just part of the oil, as with other combination full-flow/by-pass designs.

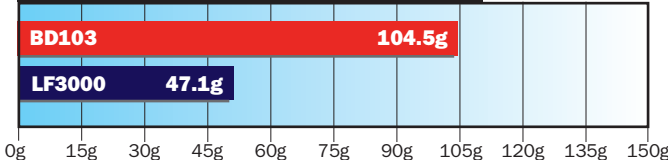
- 3. Oil flow is divided.**  
The full-flow element contains glass impregnated cellulose media (glass/polyester/cellulose blend).
- 4. Majority of the oil proceeds to the engine to provide lubrication.**
- 5. Remainder of the oil undergoes additional filtration in the by-pass element.**
- 6. Oil from the by-pass element returns to the engine sump.**

### Contaminant Removal Efficiency

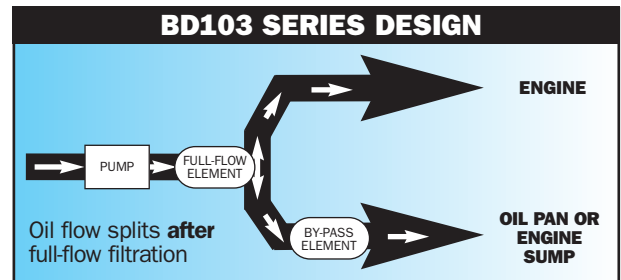
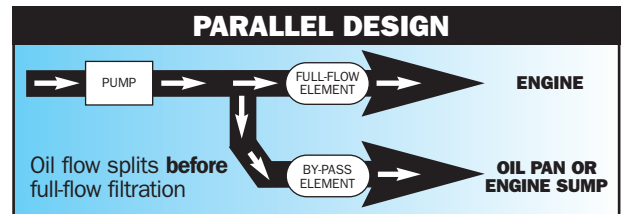


SAE HS806 Test: Flow Rate 20 gpm, ISO Fine Test Dust, Dust Added Rate 5g/hr, Termination at 20 psid, Efficiency Time Weighted Average

### Contaminant Holding Capacity



SAE HS806 Test



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