

# BPFS Series Black Powder Filtration Systems

Integrated Flow Solutions BPFS Series Black Powder Filtration Systems are designed to remove Iron Sulphide, Iron Oxides and other contaminants from gas transmission lines. It is known for being detrimental to pipeline equipment and for causing operation and maintenance issues. Understanding its physical characteristics is necessary in order to consider the appropriate separation technology. Because particle size distribution can vary wildly from one location to the other, IFS, in conjunction with our technology partner Jonell Inc offers a range of proven technology solutions.

## Industries



*Applications – See industry tab*

## Technologies: Wet & Dry Gas

- Combination cyclonic and high efficiency filters
- Membrane filtration
- Combination depth / surface micromedia allow for particle based filtration

**Cyclonics with Post Filtration** – If there are liquids or large amounts of solids present in the gas, one of the best ways is to utilize the combination of cyclones (for bulk removal) and filters (for fine particle separation). These typically consist of Multicyclones as the first stage pre-separator and a filter-separator as the cleanup a wet system, or dry gas filter for a dry system.

**Membrane Filtration** – With the average particle size of black powder is the sub-micronic range, the easiest way to ensure removal is to have a barrier which contains pores smaller than the containment you are trying to filter. Since black powder is small enough to pass most process filters, even 99% removal of 1 micron particles, membrane media is often utilized.

**Particle-based Separation** – One of the remarkable properties of black powder in its dry condition is its ability to fill large volumes of separators without generating a significant differential pressure associated with solid accumulation. The flake-like nature of the containment means that that it will behave similarly to a stack of cards. While the structure may seem solid, the majority of this is void space. By altering the spacing between the elements, and changing the inlet configuration, our vessel design takes advantage of the black powder to self-filter.



## Benefits:

- Single Source Accountability
- Pre-Packaged Modular Design Costs Less than component based site built which reduces overall project cost
- Minimizes field erection time – shorter overall project delivery schedule
- Complete system function testing prior to shipment
- 24/7 Customer service

## Industry Standards

- Horizontal or Vertical Configuration
- Vessels code stamped ASME Section VIII & National Board Registered
- Piping designed to ANSI B31.1/ANSI B31.3
- Pipe fabrication to ASME Section IX
- Structural Steel Assembly Designed to AWS D1.1

## Standard Features

- Process validation / guarantee using “Aspen Plus” simulation software
- ASME scrubbers / separators / coalescers / filters
- Class 1, Div. 2 Hazardous Locations

## Optional Features

- Ladder and platform for vertical filter access
- IEC / CENELEC / CSA compliant control panel, conduit & wiring
- PLC control system with data highway
- NACE MR-01-75 latest edition for sour service
- Pneumatic pressure test after re-assembly
- Third party inspection by ABS, Lloyd's, and DNV
- NACE MR-01-75 latest edition for sour service
- Compliance with plant / engineering specifications