



BRINK® ORGANIC PACKAGE SYSTEM (OPS)

The Brink® OPS by MECS® technologies is an engineered, skid-mounted submicron mist removal system that is designed to control problems created by condensed organic hydrocarbons that form a "blue smoke" or "blue haze" when vented to the atmosphere. Typically the application is related to organic fumes or vapors that are driven off by heat in a processing operation.

Only a high-efficiency removal system like the Brink® OPS can cope with submicron "blue smoke." Other technologies are not cost or performance-effective. Wet scrubber efficiency falls far short. Electrostatic precipitators are only at design efficiency when clean. MECS® Brink® OPS has no moving parts except the blower, is self cleaning and self draining and requires little maintenance. Most importantly, MECS® technologies will guarantee the Brink® OPS will meet or exceed government emission requirements related to persistent air pollution from stack opacity.

FEATURES AND BENEFITS:

- Delivers clean air and opacity control for a cleaner environment
- Pre-engineered, self-contained, skid-mounted modules ready to install and operate
- Mist collection efficiencies up to 99.9% using Brink® fiber bed mist eliminators
- Easily replaceable inlet pre-filters to prolong service life of fiber beds
- An effective and proven technology since 1958
- Value-engineered for low maintenance and dependable operations
- Unlike Electrostatic Precipitators (ESPs), Brink® OPS maintains design efficiency without the need for periodic cleaning and waste disposal
- Design flexibility for flows up to 50,000 ACFM* (84,950 Am³/h)

Brink® OPS provides efficient and effective collection of submicron organic mist emissions and "blue smoke" from plastics and vinyl processing, textile finishing, tenter framing, aluminum rolling, lube oil vents and asphalt coaters and saturators.

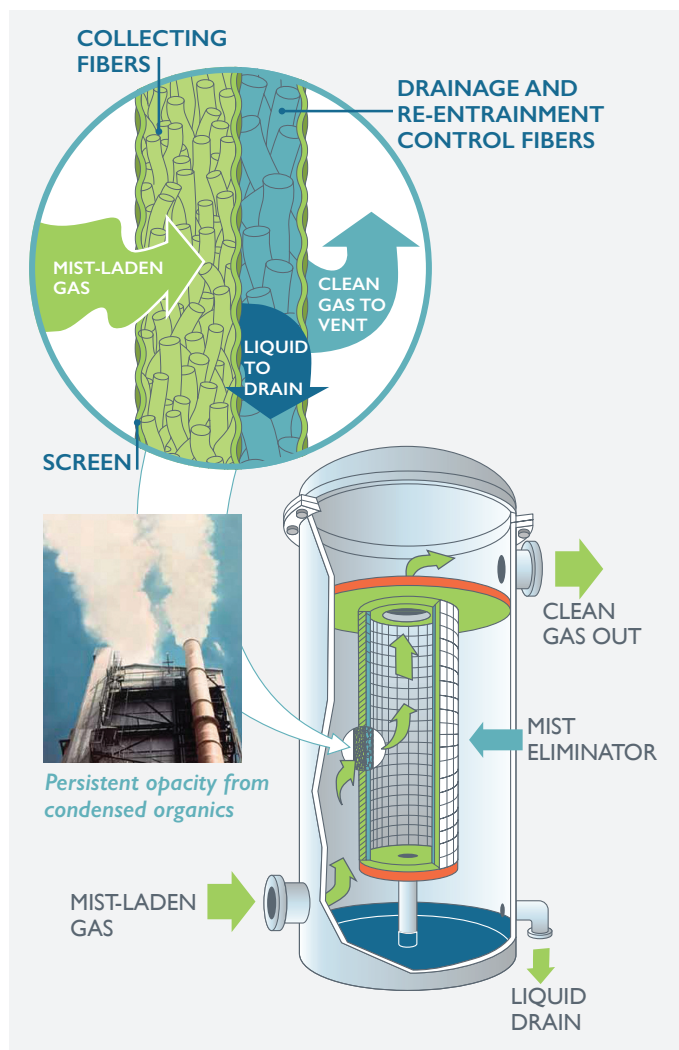


Custom designed or multiple units for larger flows are available.

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The problem

Many processes require high temperatures to be effective, such as plastic moulding or asphalt coating of roofing materials. Other processes generate heat through mechanical working and forming, such as aluminum rolling mills. As a result of this heat, hydrocarbon organics are released from the materials and process, quickly, condensing into submicron aerosol clouds of “blue smoke.” Enclosures, hoods and ductwork are typically used to collect the submicron emissions; however, stack venting without treatment causes persistent opacity and a dense, visible plume.

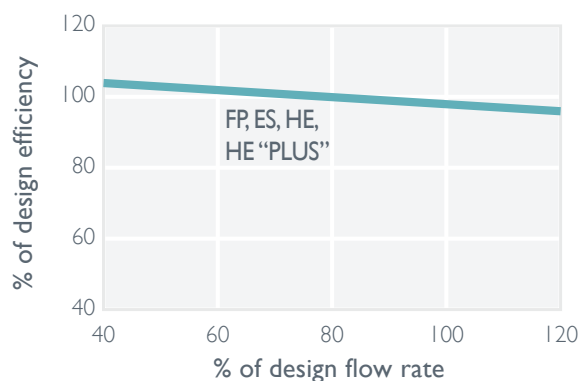


All Brink® mist eliminators operate in a similar manner. Gases containing mist particles are directed horizontally through a fiber bed. Particles collect on individual fibers of the bed, coalesce to form liquid films that are moved through the bed by the gas flow, then drain off the downstream face of the bed by gravity. Collected liquid is continuously drained from the tank.

The solution

The Brink® OPS design is based on capture efficiency, flow rate, type of organic compound and pressure drop/energy efficiency. The units are delivered in pre-engineered and pre-tested assembled modules. Field module interconnects, and installation is fast and easy using flange-to-flange assembly. The system will capture the submicron aerosol mist and drain the captured liquid for recycle or reuse. The heart of the Brink® OPS is the complement of Brink® fiber bed mist eliminator elements. Brink® elements consist of thick layers of very fine fibers placed between two concentric cylindrical screens or cages. Chemically resistant glass fibers, synthetic fibers and other specialty fibers are used as the fiber bed material, depending on the process. Structural screen/cage parts and flanges are made of any weldable metal, plastic or glass reinforced resins. The gas flow containing the submicron aerosol organics is directed horizontally through each Brink® fiber bed, and the mist particles collect on the individual fibers within the fiber beds and coalesce to form liquid films. These liquid films are then moved through the fiber beds by the gas flow, and the liquid drains off the downstream face of the fiber beds by gravity. The Brink® OPS offers ideal operational flexibility, as process turndowns do not negatively affect efficiency. The end result is clean exhaust out the Brink® OPS exiting out the stack—clear with no visible plume or opacity.

TURNDOWN FLOW RATE VS EFFICIENCY



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Package advantages include:

- Skid-mounted package simplifies installation and saves money on field labor costs
- No moving parts, other than blower; results in low maintenance
- Replaceable pre-filter material to collect large insoluble particles extends service life of the fiber bed elements
- Blower has substantial additional pressure drop available with suction capabilities up to 27 in.WG (685 mmWC)
- Coated with durable, industrial-grade coatings and paint
- Highly efficient Brink® Energy Saver (ES) bicomponent fiber bed elements to capture submicron aerosol organics and minimize re-entrainment
- Maintains efficiency without periodic cleaning
- Designed for full flow rate when elements are in loaded condition
- Repackable fiber bed elements to save money on long-term maintenance

Available options:

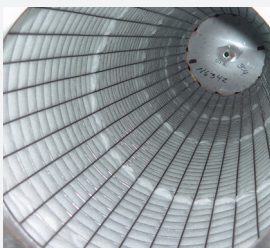
- Custom coatings for special applications and plant color standards
- Stainless steel materials of construction for corrosive and coastal environments
- Finned tube heat exchanger to cool gas to condense organics
- For additional flexibility, various mist eliminator element types are available:
 - High Efficiency-HE
 - Field Pack-FP (repackable on site)
 - Small-diameter ES, HE and FP
- Element pre-filter sleeves for enhanced mist eliminator element service life
- Fluid and air atomized element spray systems for in situ washing
- Powered pump-out for transfer of collected liquids
- Heat tracing for outdoor installation in cold-climate areas
- Stack-mounted silencer for sound attenuation



**CUSTOM BLOWER
MODULE AND STACK**



**OPS WITH A
HEAT EXCHANGER**



**BRINK® ES
FIBER BED**



**PRE-FILTER AND HEAT
EXCHANGER MODULE**



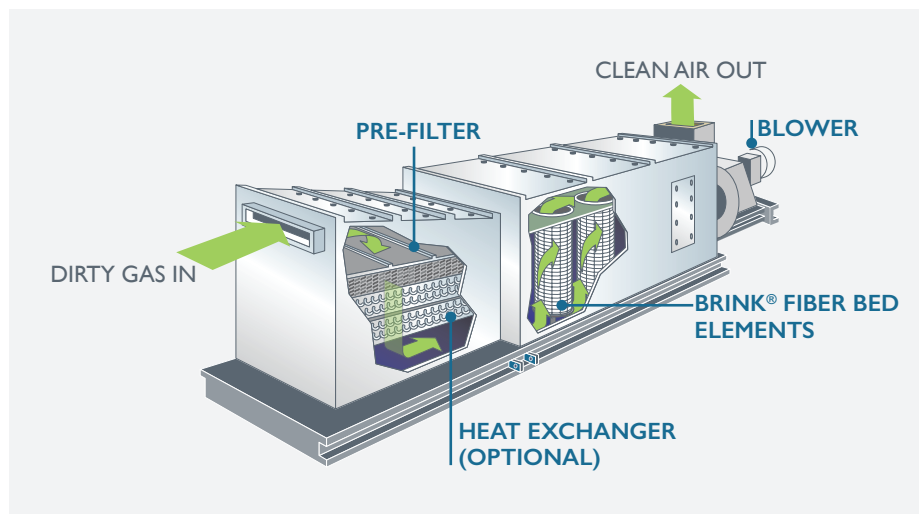
**COMPACT
CONFIGURATION**



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How the Brink® OPS works

Organic aerosol mist laden gas is drawn, by way of an induced draft blower, into the unit through a pre-filter section to collect the larger particles. The pre-filter has easily removable frames that hold commercially available disposable filter media. If cooling is required to condense the organic vapor, an optional finned tube heat exchanger section is available as part of the package. The gas then flows into the mist eliminator element housing, which contains the Brink® fiber bed mist eliminator elements and element pre-filters, if this option is selected. The organic aerosol mist is coalesced and collected within the Brink® fiber beds. The collected organic liquid drains into the bottom of the housing and is removed by a gravity drain or optional powered pump-out system. The clean gas then passes through the induced draft blower and exits from the stack.



A BRINK® OPS READY FOR DELIVERY

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