JOA High Efficiency Automated BELT FILTER

Since 1998, JOA has designed and built Vapor Exhaust systems with the key purpose of providing good working conditions at production areas in combination with effective and consistent emission control. The JHF-BELT FILTER for vapor extraction and air pollution control provides:

- Automated filtration, with minimized filter media consumption (easy to replace during operation and environmental friendly to dispose of).
- Over 50% energy reduction compared to classical solutions (Average ΔP, depending on the application, ranging 700-1250 Pa).
- Modular filter set up, V1-2V2, capable of handling 5.000 – 55.000 m^3/hr. exhaust air.

2V2-JHF-Belt Filters (twin set up) treating 55.000 m^3/hr. vapor exhaust streams from an engineered plastic compounding facility.

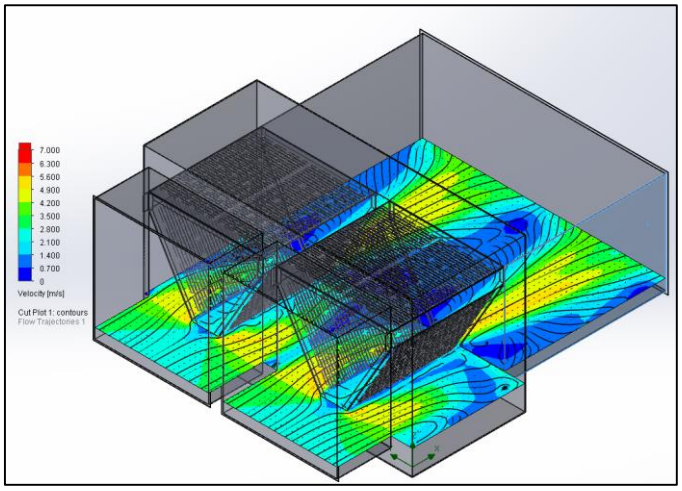
JHF-Series Belt Filter applications:

Applying the flow pattern optimized modular V-shape traverse, combined with a wide range of advanced filter media, provides solutions in three main application fields:

- JHF-C; Vapor and aerosols emission control (Volatile Organic Compounds). E.g. Vapor extraction from Plastics extrusion and banbury processes to Asphalt roofing coater and impregnator equipment.
- JHF-S; Vapor emissions containing sticky oil and (production) residue traces. E.g. exhaust from curing ovens, Tobacco DCC(C)'s, Fiber glass and plasticizer coating lines and adhesive spraying systems.
- JHF-H; filtering and removing oily, liquid aerosol in combination with sub-micron particulate matter from VOC-laden exhaust gas streams.

Advanced CFD shear force supported coalescing:

JHF series differentiating technology is based on applying finite element Computational Fluid Dynamics, realizing extend filter life time by shear force driven coalescing. Additionally the integrated pre separator impactor plates provide direct liquid separation and drainage.



Unique shear velocity flow profile for advance coalescing and optimal release of droplets generated, resulting in extended filter life time at low ΔP.

Filter media selection for different applications:

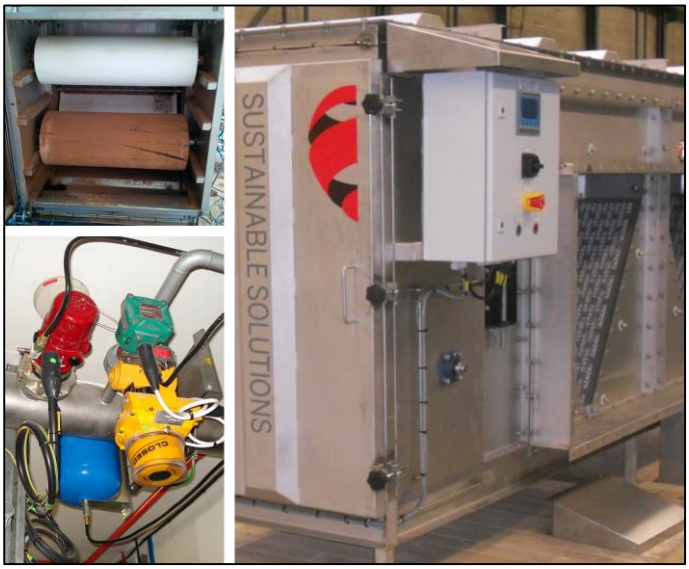
Different filter media is applied in the JHF-C, -S and -H series. In general all media consist of multiple layers, providing; (1) (sub-micron) particulate pre filtration, (2) advanced coalescing by a mixture of fibers in the range of 10 micron, with high surface tension characteristics and (3) an exhaust fiber mat, applying the shear velocity droplet release, growing sub-micron size aerosols to ca. 0.1 mm droplets. As the pressure drop of the filter media increases, new media is automatically conveyed without interrupting the production process. Up-scalable laboratory and field testing units are available to execute filter media optimization tests, or on site performance testing.

JOA

SUSTAINABLE SOLUTIONS

Robust, industrial solution, minimize operational risk and operator attention:

Over the past 10 years, JOA has designed over 450 extraction systems applying our proprietary GCM™ computer modeling. This design tool applies physics on multi-phase extraction systems, preventing condensation and fouling. Next to that, it minimizes the risk of fires and explosion, providing adequate input for a reliable fire extinguishing system. Depending on the type of application, JOA applies infrared detection sensors to activate Water, CO_2, or Steam extinguishing, to be integrated in the total system design.



The robust, low maintenance JHF-BELT FILTER, integrated with the JOA fire extinguishing system.

In this respect the robust, standardized JHF-BELT FILTER series is an important contributor for stable and reliable vapor extraction, with minimized maintenance an operator attention requirement.

Related JOA technologies:

JOA has a wide range of filtration and odor abatement products, such as Scrubbers, Ionization technology, Activated Carbon filters and Dust filters. For further details, please download the brochures from our website.

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