

EVAPORATOR SPIN FILTER

PRODUCT APPLICATION

For applications where sand, coal, saw dust, fibers, or rain are present around your HVAC system or its pressurization air inlet, a centrifugal spin filter is an effective solution. The design of the filters allows them to be self-cleaning, making them perfectly suited to areas heavy in airborne contaminants.

PRODUCT DESCRIPTION

Generally located inside the InPac systems filter cabinet, the spin filters are usually attached to an additional set of direct drive blowers that force air through them. The additional airflow helps to overcome the pressure drop while allowing the spin filters to operate at the maximum possible efficiency.

Specific Systems' spin filter modules are compact, high-density molded polypropylene blocks containing 54 tubes with stationary air spinners. By imparting high radial velocity to the dirty input air, the resulting centrifugal force hurls dirt particles and water to the periphery of the tube. Approximately 90% of the input air passes easily through the clean core at the center of each tube. Water on the surface and dirt concentrated in the 10% periphery air is withdrawn and bled through the slots on each tube. Dirt particles on the walls of the filter provide a self-cleaning action, preventing dirt from accumulating in the bleed slots and thus guarding against plugged discharge openings.

Each spin filter module is sized 9" x 18" nominal and is manufactured using low-pressure transfer-injection technology, eliminating molded-in stresses common to other injection molding processes. The filters and their holders are designed to be mounted horizontally or vertically, and are capable of cleaning up to 2000 cfm of air per module at a pressure drop of two to five (2-5) inches of water column. The filters have a dirt removal efficiency of 98% for particles 15 microns (μ) and larger, and 93% for particles 8 μ and larger. Figure 1, below, compares dirt removal efficiency with particle size. Water removal efficiency of the module is 90%. Figure 2 illustrates the efficiency of the module through a wide range of inlet air flows. Figure 3 shows pressure drop of 1.1 inches of water at an air flow of 1000 cfm.

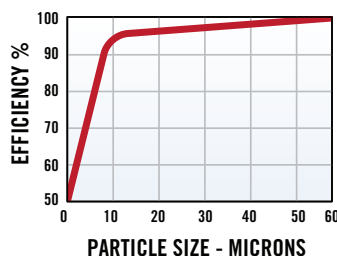


FIGURE 1 - Spin clean dirt removal efficiency at various particle sizes

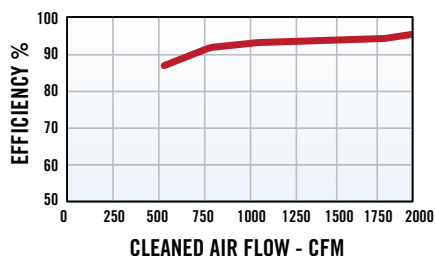


FIGURE 2 - Spin clean efficiency at various inlet flow. (AC Standard Coarse Test Dust with particle sizes from sub-micron to 200 microns)

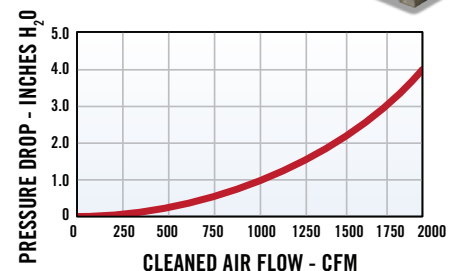


FIGURE 3 - Pressure drop of 1.1 inches of water at 1,000 CFM air flow.