

Air Intake Filter Silencers

F42

Application

The F42 Air Intake Filter Silencer is recommended for use on the intakes of centrifugal compressors, fans, blowers, engines and turbines where dust-free process air requirements are highly critical and there is a need for additional silencing of the air intake system. When used on the inlets of compressors, engines and blowers, an appropriate silencer must be installed between the air moving device and the filter.

Design

The F42 Series employs a three-stage filtering system which consists of a Type F3 primary, a Type F4 intermediate and a Type F5 filter. The rigid housing is designed to accept 24" x 24" filter elements, wherein the final filter contains a fluid seal to prevent bypass. The internal design provides a safeguard to prevent small size foreign objects from entering the air intake passageway when filters are removed. To effectively reduce intake noise, a silencing device is designed into the filter housing air outlet nozzle. This silencer is designed so there is no increase in the housing pressure drop. The minimum efficiency of the final filter is not less than 99.97% (by DOP test method) on 0.3 microns and above. Field tests indicate final filters need to be changed once every 18 to 24 months if the primary and intermediate filters are properly serviced. Special designs are available upon request.

Construction

Welded sheet and plate steel construction. Metal joints are sealed to prevent dirt and air from bypassing the filter element. All surfaces are prime coated, followed with a final coat of machinery enamel. Flanges are drilled to match 125 lb. American Standard Flanges. Weatherhoods are included. Special finishes, or materials, are available at extra cost.

For selection of filter elements and method of determining pressure drop — SEE PAGES 2 and 3.

Octave Band Center Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Typical Attenuation -db	5	6	8	10	12	15	16	15

Model	Total Filter Element (CFM)	Outlet Nozzle Velocity (FPM)	Fig.	A	Q	C	S	Wt. Lbs.	No. of 24" x 24" Filter Elements		
									F3	F4	F5
F42-81	2,500	7,198	1	8	24	33	50 7/8	370	1	1	1
F42-101	2,500	4,565	1	10	24	33	50 7/8	385	1	1	1
F42-121	2,500	3,183	1	12	24	33	50 7/8	405	1	1	1
F42-122	5,000	6,365	2	12	24	33	81 3/4	555	2	2	2
F42-142	5,000	4,940	2	14	24	33	81 3/4	570	2	2	2
F42-162	5,000	3,755	2	16	24	33	81 3/4	585	2	2	2
F42-184	10,000	5,900	3	18	48	33	81 3/4	910	4	4	4
F42-204	10,000	4,760	3	20	48	33	81 3/4	935	4	4	4
F42-244	10,000	3,280	3	24	48	33	93 3/4	1065	4	4	4
F42-246	15,000	4,920	4	24	48	33	102 3/4	1300	6	6	6
F42-306	15,000	3,135	4	30	48	33	102 3/4	1370	6	6	6
F42-308	20,000	4,180	5	30	48	33	102 3/4	1570	8	8	8
F42-368	20,000	2,920	5	36	48	33	102 3/4	1695	8	8	8

