



PDF Series | Mist Eliminator

Low Pressure Drop Eliminates Maintenance and Saves Energy

The Pure-Aire PDF Series Mist Eliminator removes oil mist and particulate to protect the investment in your plant equipment and improve product quality. The extremely low pressure differential and extended element life reduce energy costs and maintenance intervals. The benefits of a 0.5 psid pressure differential and service life of 7 to 15 years **exceeds all standard filtration**. The use of the PDF Series Mist Eliminator ensures additional protection from a catastrophic failure inside an oil lubricated compressor separator system.

The PDF Series Mist Eliminator is available from 500 to 10,000 scfm. Standard vessel design is 150 psi gauge. Consult factory for special pressures.

Benefits and Standard Features

- ✓ Oil and Particulate Free Compressed Air
- ✓ Ultra Low Pressure Drop Significantly Reduces Operating Costs (0.5 psi average)
- ✓ Element Service Life of 7 to 15 Years
- ✓ High Efficiency Filtration
 - Removal of Solid Particles 0.1 to 0.3 Micron at 99.98% Efficiency to 0.5 ppm by Weight
- ✓ Filtration Media is Designed for a High Load Factor Compared to Conventional Filters Providing 11 to 16 Times **Greater Filtration Surface Area, Greater Dirt Holding Capability, and Lower Pressure Drop**

Reduce Energy Costs



The PDF Series Mist Eliminator pressure drop design is the lowest available at 0.5 psi (average), which is typically 4 to 6 psid lower than conventional filters. This provides significant energy savings based on the rule of thumb that for every 2 psi pressure drop that is eliminated a 1% energy reduction in HP is achieved.

Annual Energy Savings: 4 psi = 2% Savings in Lost Compressor Power

Annual Energy Savings on a 100 HP System

$\$0.08/\text{kWh} \times 8760 \text{ hours} \times 74.6 \text{ kW} \times 2\% = \$1,046$
$\$0.10/\text{kWh} \times 8760 \text{ hours} \times 74.6 \text{ kW} \times 2\% = \$1,307$
$\$0.12/\text{kWh} \times 8760 \text{ hours} \times 74.6 \text{ kW} \times 2\% = \$1,568$



Typical placement of the PDF Series Mist Eliminator in the system is designed to remove solid, liquid, and/or gaseous contaminants prior to the air dryer. This will reduce excess contaminants and oil from building up.

A coalescing pre-filter for removal of entrained condensate and oil to prevent fouling of the desiccant and an optional pre-filter may be recommended for additional contaminant removal. Liquid condensate entering a desiccant bed will lead to rapid deterioration. Oil entering the desiccant bed will permanently reduce the capacity of the desiccant.

Automatic drain valves should be installed on any filter that may collect water, condensate, or liquid oil. Drains should be tested regularly to ensure the correct drainage and operation. For maximum energy savings a Pure-Aire zero-loss drain is recommended.

Technical Specifications

Model	scfm 50 PSIG	scfm 60 PSIG	scfm 70 PSIG	scfm 80 PSIG	scfm 90 PSIG	scfm 100 PSIG	scfm 110 PSIG	scfm 120 PSIG	In/Out	Length (Inches)	Width (Inches)	Height (Inches)
500PDF	280	325	370	415	455	500	545	585	3" NPT	24	21	68.25
800PDF	425	490	560	625	690	800	820	885	3" NPT	24	21	68.25
1100PDF	620	715	810	910	1005	1100	1195	1100	3" NPT	28	23.5	72.5
1500PDF	845	975	1110	1240	1370	1500	1630	1500	4" FLG	28	23.5	72.5
1900PDF	1070	1235	1405	1570	1735	1900	2065	1900	4" FLG	34	32	76
2400PDF	1355	1565	1770	1980	2190	2400	2610	2400	4" FLG	34	32	76
300PDF	1690	1955	2215	2475	2740	3000	3260	3000	4" FLG	34	32	89
4500PDF	2540	2930	3325	3715	4110	4500	4890	4500	6" FLG	34	32	153
6000PDF	3385	3910	4430	4954	5475	6000	6525	6000	8" FLG	41	39	155
8000PDF	4515	5210	5910	6605	7305	8000	8695	9395	8" FLG	41	39	181
10000PDF	5640	6510	7380	8255	9125	10000	10870	11740	10" FLG	47	39	211

Note:

Coalescing efficiency is reduced as the temperature rises. Consult factory if the system inlet temperature exceeds 125°F. Maximum operating temperature is 220°F.

Contact Us

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