

**36-Month  
 Element Warranty**



**HDF Mist Eliminator™ Filtration**

- **Low Operating Cost** - ultra-low pressure drop
- **Minimal Maintenance** - 10-15 year element life
- **High Filtration Efficiency** -
  - Particle Removal: to .5 ppm by weight
    - > 3 micron = 100% efficiency
    - 0.1-3 micron = 99.98% efficiency
  - Oil Removal: 2 ppm IN = .01 ppm OUT
  - 10 ppm IN = .05 ppm OUT
- **Effective For Commonly Used Lubricants**

# HDF Mist Eliminator™

**Filtration For Oil-Free Compressed Air With  
 Ultra-Low Pressure Drop And Long Element Life**

125 - 8,000 SCFM

Oil-lubricated air compressors can generate oil and water mist that can contaminate a compressed air system. HDF Mist Eliminators™ remove oil and water mist from the air to optimize downstream processes and protect compressed air tools and equipment. Conventional filtration typically has much higher pressure drop and much shorter element service life than a Mist Eliminator™, resulting in significantly greater air system operating cost. HDF Mist Eliminators™ also provide protection of downstream air treatment and process equipment in the event of catastrophic failure of the air compressor oil separator.

**Effective Deep-Bed Filtration**

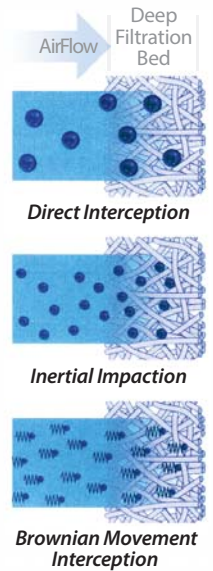
At the heart of the HDF Mist Eliminator™ is a robust element of deep filtration media. As compressed air that's contaminated with oil and water mist flows through the element, aerosol particles are collected in three ways:

**Direct Interception** - results when particles 3 microns or greater collide with media fibers. They then coalesce to form droplets that migrate downward.

**Inertial Impaction** - occurs when particles 1 - 3 microns collide with fibers as the airstream passes through the random media network. The droplets that form then migrate downward.

**Brownian Movement** - causes interception of extremely fine particles within the media. These particles have a random side-to-side motion - "Brownian Movement" - that's triggered by collision with air molecules.

High coalescing efficiency results from long compressed air residence time through the filter media. Low internal velocity prevents oil re-entrainment while generous surface area keeps pressure drop ultra-low over the life of the element.



See reverse side for Technical Specifications and Sizing Information.

# HDF Mist Eliminator™

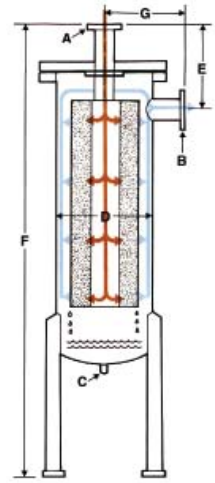
## Placement In Air System

HDF Mist Eliminator™ placement within the air system is dependent upon the type and age of the air compressor, and the type of air dryer used.

**Use With Refrigerated Dryers:** While the condensate separator in a refrigerated dryer will effectively remove moisture and oil from the airstream, some oil will remain in aerosol form. Placement of the Mist Eliminator™ after the dryer will capture the oil before it enters air system piping.

In air systems with compressors that consume excessive amounts of oil, placement of the Mist Eliminator™ ahead of the dryer will keep oil from building up in the dryer, maintaining good performance and efficiency.

**Use With Desiccant Dryers:** Protect desiccant media from oil contamination by placing the Mist Eliminator™ ahead of the dryer.



## Technical Specifications

MODEL NUMBER	INLET PRESSURE psig											CONN. SIZE (A)(B)	DRAIN SIZE (C)	SHIPPING WEIGHT lbs.		DIMENSIONS Inches			
	CAPACITY SCFM													HOUSING & ELEMENT	REPLACEMENT ELEMENT	(D)	(E)	(F)	(G)
	50	60	70	80	90	100	110	120	130	140	150								
125HDF	70	80	90	100	115	125	135	150	160	170	180	2" MPT	1" FPT	455	20	14	14.5	42.3	13
250HDF	140	165	185	205	230	250	270	295	315	335	360	2" MPT	1" FPT	455	25	14	14.4	42.3	13
500HDF	280	325	370	415	455	500	545	585	630	675	720	3" MPT	1" FPT	520	35	14	14.4	68.3	13
800HDF	425	490	560	625	690	800	820	885	950	1020	1085	3" MPT	1" FPT	530	60	14	14.5	68.3	13
1100HDF	620	715	810	910	1005	1100	1195	1290	1390	1485	1580	3" MPT	1" FPT	660	70	16	15.5	72.3	14
1500HDF	845	975	1110	1240	1370	1500	1630	1760	1890	2025	2150	4" FLG	1" FPT	775	100	18	15.6	72.4	15
1900HDF	1070	1235	1405	1570	1735	1900	2065	2230	2395	2565	2730	4" FLG	1" FPT	1225	120	24	16.9	75.8	18
2400HDF	1355	1565	1770	1980	2190	2400	2610	2820	3030	3235	3450	4" FLG	1" FPT	1245	140	24	16.9	75.8	18
3000HDF	1690	1955	2215	2475	2740	3000	3260	3525	3785	4045	4310	4" FLG	1" FPT	1385	160	24	16.9	88.8	18
4500HDF	2540	2930	3325	3715	4110	4500	4890	5285	5675	6070	6460	6" FLG	1.5" FLG	1770	250	24	18.0	153.0	18
6000HDF	3385	3910	4430	4954	5475	6000	6525	7045	7570	8090	8610	8" FLG	2" FLG	2460	350	30	18.0	155.0	21
8000HDF	4515	5210	5910	6605	7305	8000	8695	9395	10,090	10,790	11,500	8" FLG	2" FLG	2850	375	30	20.0	181.0	21

NOTE: Maximum operating temperature is 220°F. Coalescing efficiency is reduced as temperature rises. Consult factory for application assistance when inlet temperature exceeds 125°F.

## Sizing Procedure

**Step 1:** From the Specifications Table above, select the appropriate Inlet Pressure column and proceed down the column to the capacity that meets or exceeds the SCFM flow requirement. (If inlet pressure and capacity are not shown, interpolate between columns).

**Step 2:** Read across the table to the left column to determine the HDF model that meets the requirement.

## Element Replacement

Pressure drop will be less than one pound differential at initial element installation.

**Replace element when pressure differential is 3 psid or greater.**

## Drain Options

Consult factory for drain options to discharge compressor lubricant and contaminants from the HDF Mist Eliminator™.

## Standard Features

- Differential Pressure Gauge
- Pressure Relief Valve
- ASME-Coded Pressure Vessel



## HDF Mist Eliminators™ Save Energy

The cost of pressure drop is significant when accumulated over time. Typically, there is 6 psid less pressure drop in an air system with a Mist Eliminator™ instead of conventional filtration.

### Annual Savings From 6 psi Pressure Reduction

KW Cost	Air Compressor Horse Power		
	50	100	200
\$.06	\$ 274	\$ 548	\$ 1096
.08	365	730	1460
.10	457	913	1826

(Savings calculations based on two 8-hour shifts/day, 5 days/week, 51 weeks/year = 4,080 Hours)



ZEKS HDF Mist Eliminators™ are not designed, intended or approved for breathing air applications.

Specifications, illustrative materials and descriptions contained herein were as accurate as known at the time this publication was approved for printing. The company reserves the right to change specifications, discontinue models, equipment or design without notice and without incurring obligation. The information set out in this brochure is for preliminary information only and is not intended to constitute any representation or warranty by ZEKS to potential customers or to form the basis of a contract with any customer.

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