



# Super High Efficiency Coalescing Filters



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## THE BEST PROTECTION FOR YOUR COMPRESSED AIR DRYER...

The Super High Efficiency Coalescing Filters (SHECF) are designed to remove liquid aerosols from compressed air and gas streams. Located upstream of air dryers, coalescing filters intercept liquid aerosols and coalesce them into larger droplets which are easily removed by gravity. These larger droplets pass through the filter medium and drain into the filter housing sump. Periodically, the housing sump is drained by an automatic drain valve. The purpose of locating the coalescing filter upstream of the desiccant air dryer is to remove liquids which the dryer is unable to remove. In eliminating liquids from compressed air and gas streams, the SHECF prevents erosion and clogging of the air system and protects the desiccant from liquid fouling.

- Lowest penetration available - Less than .0014 ppmw oil
- Lowest saturated pressure drop - Less than 3.0 psi
- Performance numbers greater than 140 - low pressure drop
- Life numbers greater than 90 - dirt holding capacity

## SUPER HIGH EFFICIENCY

The SHECF has been designed with optimized pore size and media thickness to insure maximum aerosol removal efficiency (minimum oil carry over) without reentrainment of coalesced liquids. Additionally, this proprietary design results in high energy efficiency (low saturated pressure drop). Pressure drop across a coalescing filter costs money. At 100 scfm (100 psig, 100°F) a 1 pound pressure drop across an assembly costs \$78 per year (at 7¢/kwhr). The performance of these coalescing filters has been verified through extensive testing. The evaluation of removal efficiency and energy efficiency is expressed as a performance number calculated as follows:

$$P_n = \frac{-100 \log B}{\Delta P}$$

Where  $P_n$  = Performance Number

$B$  = Average Oil Penetration

$\Delta P$  = saturated pressure drop at 100 spig, 100°F

The performance numbers are greater than 140 at nominal conditions while other manufacturers' products are typically below 50.

# Super High Efficiency Coalescing Filters

## LONG CARTRIDGE LIFE

The life of the cartridge in service is equally important. Unlike liquid aerosols which pass through the medium and are removed from the air system, particulate contaminants accumulate on the filter causing increased pressure drop and loss of energy efficiency. Fixed fiber/fixed pore construction inhibits channeling and media migration. The SHECF's incorporate pleated media resulting in high surface area with high dirt holding capacity and extended cartridge life. We have measured the dirt holding capacity of its HECF's in order to evaluate cartridge life. This is expressed as a life number calculated as follows:

$$Ln = \frac{-DHC}{Q}$$

Where Ln = Life Number

DHC = Dirt Holding Capacity In Milligrams

Q = rated flow of the assembly in scfm at 100 spig, 100°F

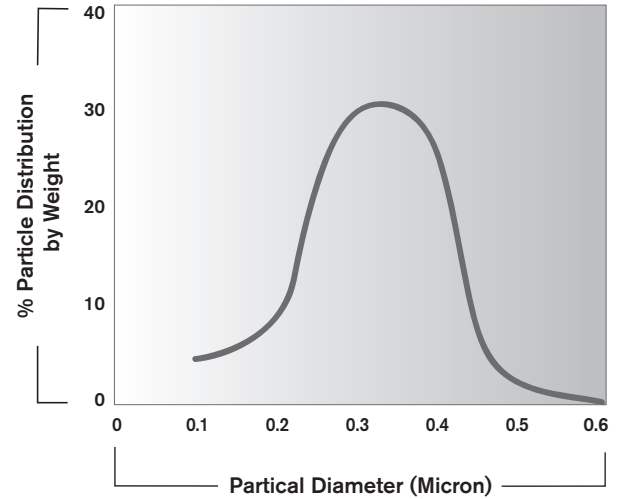
Our life numbers are greater than 90 while other cartridges are typically less than 30. They have 3-6 times the life of other cartridges in normal service.

## Super High Efficiency Coalescing Cartridges have many advantages over cylindrical cartridges

- Media pore size is optimized for high removal efficiency with low saturated pressure drop
- Cartridge media is pleated for high surface area and long life
- A polyester final classifying layer prevents liquid reentrainment

## MATERIALS OF CONSTRUCTION

<b>Filter Media:</b>	Epoxy Coated Glass Fibers
<b>Support Core:</b>	Plated Carbon Steel
<b>Outlet Cage:</b>	Plated Carbon Steel
<b>Drain Layer:</b>	Polyester
<b>End Caps:</b>	Plated Carbon Steel
<b>Seals:</b>	Buna-N (low temp) / Silicone (high temp)



Typical output of an oil lubricated compressor Aerosolized distribution measured using a PMS Las-X laser spectrometer.

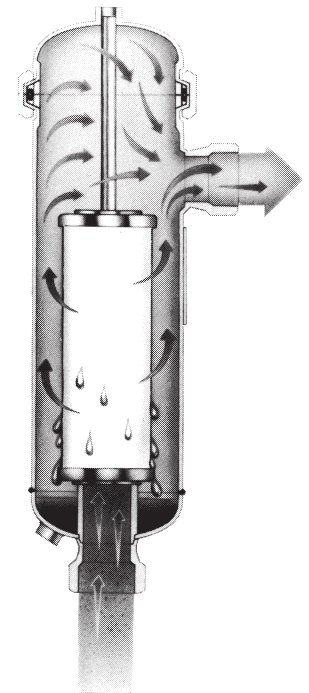
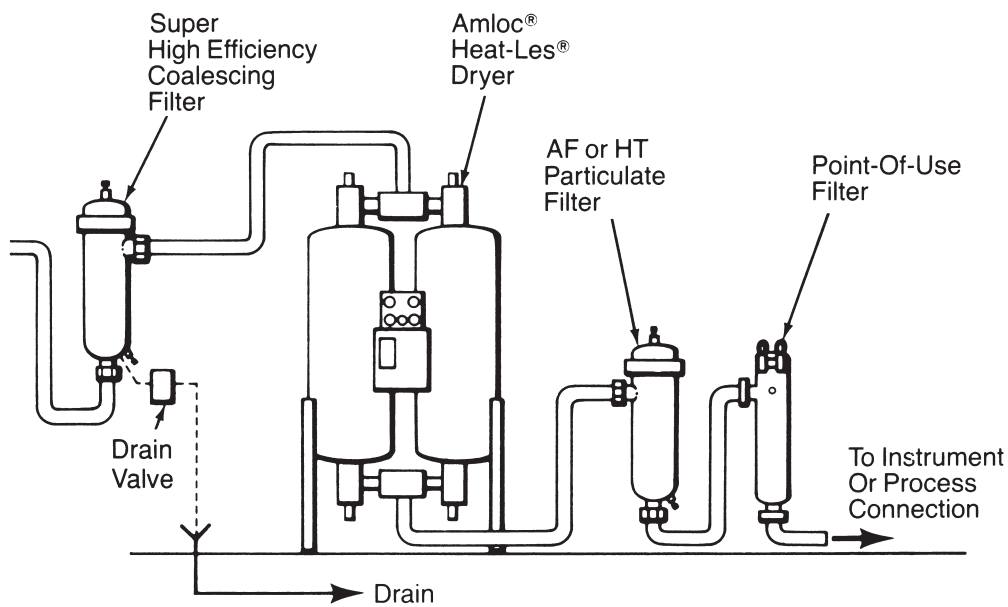


# Product Specifications

FLOW RATE (SCFM)	60	100	200	400	600	1200
<b>FLUID SERVICE:</b>	Air/Gas	Air/Gas	Air/Gas	Air/Gas	Air/Gas	Air/Gas
<b>CARTRIDGE - MAX. ΔP (PSID)</b>	50	50	50	50	50	50
<b>ASSEMBLY DRY ΔP (PSID)</b>	2.0	0.9	0.9	0.9	0.9	1.0
<b>ASSEMBLY SATURATED ΔP (PSID)</b>	2.8	1.8	2.5	2.4	3.0	2.6

\* Single cartridge housing at 100 psig and 100°F  
 Maximum temperature: 160°F

## PPC PURIFICATION SYSTEM



### SPX FLOW TECHNOLOGY

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