

Ultrair M/S Coalescing Filter Elements

Coalescing depth filter elements for removal of water, oil aerosols and solid particles from compressed air and gas with a retention rate validated according to ISO 12500.

Donaldson Ultrair M and Ultrair S filter

elements are designed for high quality filtration of compressed air and gas in industrial applications.

Ultrair M/S element performance has been validated in accordance with ISO 12500, which assures that your application will receive compressed air quality as specified by ISO 8573-1.

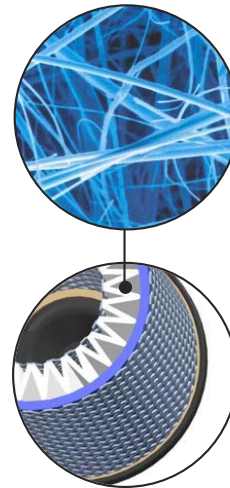
The combination of flow channel design optimized through the use of computational fluid dynamics software, careful selection of filtration media, and advanced production technology give the Ultrair V element a very low pressure drop while maintaining a high separation efficiency.

Ultrair M/S elements utilize a three-dimensional polyester microfibre fleece media, which is ideal for coalescing and draining away oil and water aerosols in the airstream. In addition, this media will capture and retain particulate contaminants through direct impaction, sieving and diffusion.

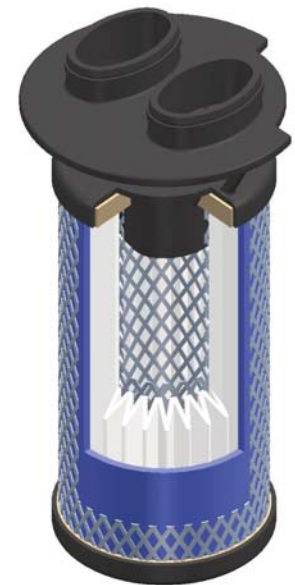
Applications

The Donaldson Ultrair M and Ultrair S coalescing filter elements are ideal in the following industries and applications:

- Plant air
- Pharmaceutical
- General machine fabrication
- Air conditioning technology
- Process Industry (instrumentation and control air)
- Beverage
- Food
- Plastic
- Chemical
- Petrochemical



Cross sections of the depth filter with SEM micrograph of the filter media



Coalescing Ultrair Filter Element Types M/S

Operating Pressure psi	Conversion Factor fp
15	0.25
30	0.36
45	0.50
60	0.60
75	0.75
90	0.90
100	1.00
115	1.10
130	1.20
150	1.40
160	1.50
175	1.60
190	1.75
200	1.90
220	2.00
250	2.10

Element Type	Flow Rate 100 psi (cfm)*
0035	20
0070	41
0120	70
0210	123
0320	188
0450	264
0600	353
0750	441
1100	647

Sizing example for pressure which deviates from nominal pressure:

$V_{nom} = 200$ cfm, operating pressure = 130 psi

$V_{corr} = V_{nom}/f_p$

$V_{corr} = 200 \text{ cfm}/1.25 = 165$ cfm

Calculated Size: Type 0320

*cfm related to 15 psi abs. and 68°F

Ultrair M/S

Features

Benefits

Performance validated in accordance with ISO 12500	Reliable filtration of compressed air in accordance with quality specifications of ISO 8573-1
"Total filter" design concept	Every aspect of filter designed, optimized and selected to yield flow capacities, filtration grades and efficiencies in line with industry requirements
Optimized flow channels	Minimizes pressure drop, resulting in energy savings
Pleated filter media	High filtration surface area of low pressure drop and high dirt-holding capacity
Stainless steel inner and outer support cores	Protection against pressure shock in either direction; no corrosion for long element life
Coalescing sleeve bound to outer SS support core	No inflation of sleeve, assuring constant contact with main filter body for optimized drainage of coalesced water and oil

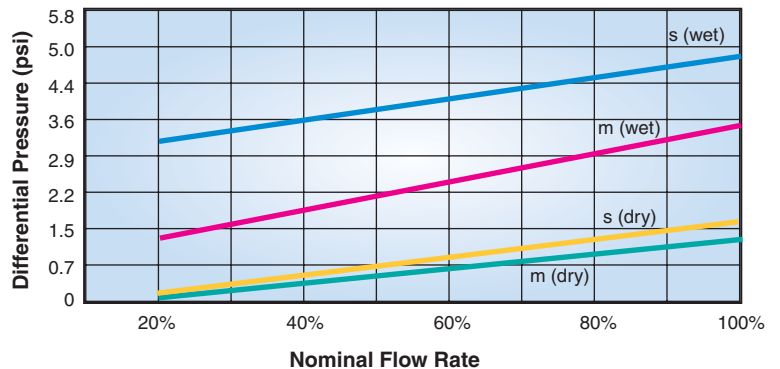
Specifications

Validation	Validation of high-efficiency filters to ISO 12500
Residual oil content at an inlet concentration of 2.5 PPM	S = 0.005 PPM M = 0.004 PPM
Retention rate related to particles of 0.01 µm	S = 99.99998% M = 99.9999%

Materials

Filter Media	Borosilicate glass fiber fleece
Coalescing Sleeve	Polyester fleece
Bonding	Polyurethane
End Caps	Glass fiber reinforced polymer
O-Rings	Perbunan®: silicone free and free compound (Standard)
Inner and Outer Support Sleeves	304 Stainless steel

Differential pressure of M or S filter element in dry and wet condition at 116 psi absolute



* Perbunan® is a registered trademark of LANXESS Deutschland GmbH.



Donaldson Company, Inc.
Compressed Air & Gas
P.O. Box 1299
Minneapolis, MN
55440-1299 U.S.A.

Tel 800.543.3634 (USA)
Tel 800.343.3639 (within Mexico)
Fax 770.448.3854
compressedair@mail.donaldson.com
www.donaldson.com

Information in this document is subject to change without notice.

© 2007 Donaldson Co., Inc.
Bulletin No. UFSB0142
Ultrair M, S 11-07