



## BA-Series

Dual-Stage Compressed Air Filters

- Coalescer/Adsorber Combination Unit
- Flows to 75 SCFM
- Pressures to 500 PSIG

Bulletin 1300 - 905/USA

Compressed Air  
and Gas Filters



To Order or for  
more information call



1-800-345-8207

# Finite®



# Finite® Breathing Air Purifiers

## Dual-Stage Compressed Air Filters - BA-Series



Finite®'s BA-Series Purifiers are available in 3/4" and 1" NPT connection sizes. Additional sizes (1/4", 3/8" and 1/2" NPT) will be available summer 2004.

**BA**-Series filters are designed to be used as point-of-use breathing air filters. This combination unit contains both a fine grade coalescing filter element and an activated carbon vapor removal element.

BA-Series filters may also be used in applications requiring compressed air to be free of odor or taste bearing hydrocarbons. Food/beverage applications would be typical where compressed air comes in contact with the product. The BA-Series can also be used as a prefilter for critical needs such as zero air generators, membrane filters and many others!

Replacement elements are supplied in convenient repair kits which include one coalescing element, two activated carbon adsorber elements, and replacement seals. Two adsorber elements are supplied because the stage one coalescer will routinely outlive the extremely sensitive second-stage adsorber element.

For severe applications with excessive solid and liquid contaminants, the BA-Series should be preceded by Finite® H-Series (Bulletin 1300-993/USA) pre-coalescer or interceptor filters.

Finite® also supplies pressure regulators which can be used downstream of the BA-Series to lower system operating pressures to desired levels for breathing air applications. Please refer to Finite® bulletin 1300-703-3/USA.



### Finite's BA - Series Offers...

- Connection sizes: 3/4" and 1" NPT
- Flows: Up to 75 SCFM
- Maximum Pressure: 500 PSIG
- Maximum Temperature: 175° F
- Drain Port: 1/8" NPT with standard manual drain (float drain available)

### Typical Applications

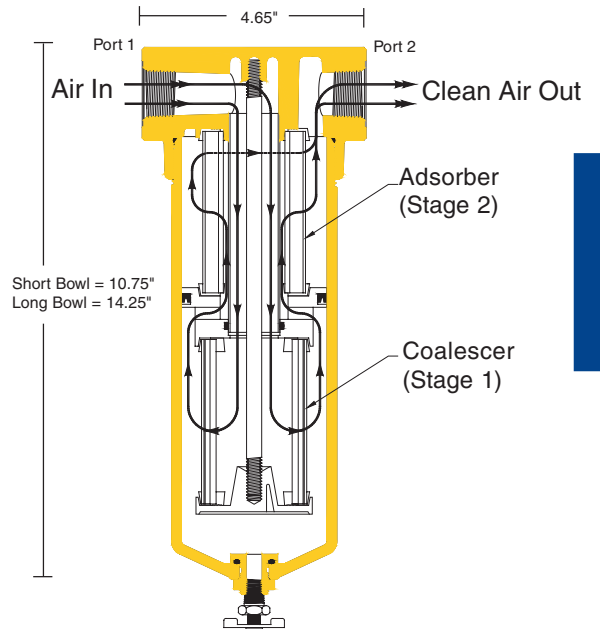
- Industrial Breathing Air
- Aircraft Cabin Air
- Zero Air Generator Prefilter
- Food Processing/Packaging
- Membrane Prefiltration
- Instrument Air Dryer Prefilter

# How it works

Compressed air enters port #1 of the housing and is directed down a hollow chamber into the first-stage coalescing element (bottom). Oil, water and solid contaminant is removed with a 99.97% or higher efficiency as the air flows from the inside of the element to the outside. The coalesced liquid drains off the element into the bowl where it is removed either manually, or by an automatic float drain. The oil-free air then is redirected upwards to

the inside of the adsorber element (top) by means of a non-bypassing separation device. The second stage's activated carbon element collects hydrocarbon vapors as the air flows from the inside to the outside of the element. The purified air then exits through port #2 of the housing.

**Note:** This product does not remove toxic gases from the air stream. A carbon monoxide monitor is recommended.



Compressed Air and Gas Filters

## Choice of media types

All BA filters have an activated carbon element (Stage 2). Depending on the application, you may either choose to use a micro-glass coalescer (C) or a micro-glass coalescer with a built-in prefilter (Q) (Stage 1.)

### Stage 1

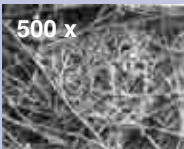


C: Micro-glass coalescer



Q: Micro-glass coalescer with built-in pleated prefilter

### Grade 4



### Grade 6



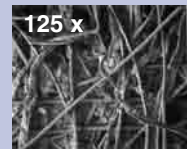
Stage 1 coalescers come in grade 6 (standard) or grade 4. Choose grade based on coalescing efficiencies in the chart below.

### Stage 2



A: Activated Carbon

### Grade A



Stage 2 adsorber polishes air stream of final trace amounts of hydrocarbon vapors with an efficiency of 99%+.

## Coalescing Media Specifications

| Grade Designation | Coalescing Efficiency .3 to .6 Micron Aerosols | Maximum Oil Carryover <sup>1</sup> PPM w/w | Micron Rating |
|-------------------|--|--|---------------|
| 4                 | 99.995%  | .003                                       | .01           |
| 6                 | 99.97%   | .008                                       | .01           |

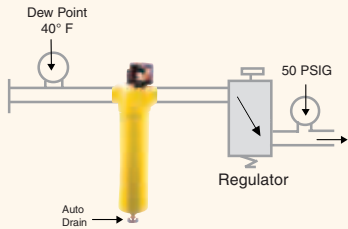
<sup>1</sup>Tested per ADF-400 at 40 ppm inlet.

## Q. What is the expected life of my BA-Series filter element?



A. Expected life of the filter elements is entirely dependent on the quality of the incoming compressed air, but can be several thousand hours. However, the elements should be changed whenever odors and/or taste become present regardless of hours in operation.

## Application:



Use any compressor with aftercooler and refrigerated dryer. Air intended for use as industrial breathing air and in decompression chambers. **CAUTION:** Always use high temperature synthetic lubricants and monitor (alarm) for carbon monoxide concentrations exceeding established maximum recommended levels. This system will not eliminate toxic gases!

**OTHER SPECS MET:** O.S.H.A. 29CFR 1910.134

## Flow Ratings:

|                             | BAN3S   |         | BAN4S   |         | BAN3L   |         | BAN4L   |         |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
|                             | Grade 4 | Grade 6 | Grade 4 | Grade 6 | Grade 4 | Grade 6 | Grade 4 | Grade 6 |
| Max. Rated Flow at 100 PSIG | 25 scfm | 30 scfm | 35 scfm | 45 scfm | 40 scfm | 60 scfm | 50 scfm | 75 scfm |
| $\Delta p$ (dry)            | 1.5     |         | 2.0     |         | 1.5     |         | 2.0     |         |
| $\Delta p$ (wet)            | 3.5     |         | 4.0     |         | 3.5     |         | 4.0     |         |

Note: The differential pressure ( $\Delta p$ ) includes the effects of the housing and both elements.

# How to Order

## Complete Dual Stage Assemblies

| Series Name | Port Type | Port (Connection) Size | Bowl                     | Element Grade | Element Type | End Seal                                   | Accessory Designator   |
|-------------|-----------|------------------------|--------------------------|---------------|--------------|--|--|
| <b>BA</b>   | <b>N</b>  | <b>3</b>               | <b>L</b>                 | <b>6</b>      | <b>C</b>     | <b>U</b>                                   | <b>G</b>   |
|             | N - NPT   | 3 - 3/4"<br>4 - 1"     | S - Standard<br>L - Long | 4<br><br>6    | C<br><br>Q   | U = Urethane<br>(Standard on all elements) | for preinstalled accessories<br><br>A - Auto Drain<br>G - DPG Gauge<br>(Standard)<br>N - No Accessories<br>Y - A + G |

Note: Bowl length is determined by the flow rate required. See Flow Ratings Chart above.

Note: Designate first stage grade and media type, second stage media type will always be "A" media, and is not designated in the part number

## BA-Series Replacement Elements

| Repair Kit | Series Name | Port (Connection) Size | Bowl                     | Element Grade | Element Type | End Seal                                   |
|------------|-------------|------------------------|--------------------------|---------------|--------------|--|
| <b>K</b>   | <b>BA</b>   | <b>3</b>               | <b>L</b>                 | <b>6</b>      | <b>C</b>     | <b>U</b>                                   |
|            |             | 3 - 3/4"<br>4 - 1"     | S - Standard<br>L - Long | 4<br><br>6    | C<br><br>Q   | U = Urethane<br>(Standard on all elements) |

Note: Each repair kit contains (1) coalescing element, (2) activated carbon adsorber elements and replacement seals.