

# High Efficiency Coalescers

## Parker Filtration 8000 Series



**Parker Filtration 8000 Series  
Coalescing Filters**

**Remove 99.99% of 0.01 micron particles of oil, water, and dirt from compressed air and other gases**

**Continuously trap and drain liquids**

**Service flow ranges from a few SCFM to 40,000 SCFM**

**Remove trace oil vapor with adsorbent cartridges**

**Maximum pressure from 250 to 665 psig (17.2 barg to 45.9 barg)**

**Maximum temperature to 130°F (54°C)**



### **Parker Filtration 8000 Series Filter Assemblies**

Coalescing Compressed Air Filters protect your equipment and delicate instruments from the dirt, water, and oil usually found in compressed air. Coalescing Filters remove these contaminants at a very high efficiency - up to 99.99% for 0.01 micron particles and droplets. Liquid releases from the filter cartridge to an automatic drain as rapidly as it enters the filter. This allows the filter to continue removing liquids for an unlimited time without loss of efficiency or flow capacity.

The Parker Filtration 8000 Series are shipped as complete systems with built-in differential pressure indicators to signal filter changes and an automatic drain with sightglass to monitor its performance. A 1/4 turn bayonet quick release bowl with a pressure relief valve has been incorporated into this new design offering quick access to the filter cartridge without the need for tools. Modular quick connections are available for coupling together several filter housings in series. The 8000 Series is available in many different configurations to accommodate the requirements of any unique application.

# Filter Installation Recommendations

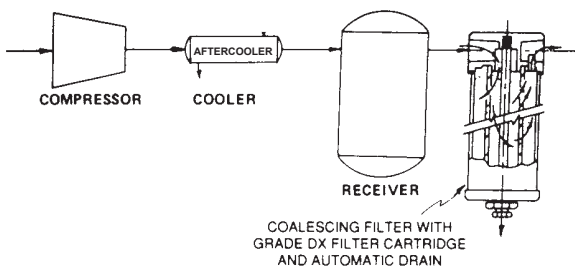
## Parker Filtration 8000 Series

### Recommendations for Typical Filter Installations

Selecting the proper location for the 8000 Series filter in a compressed air line is as important as selecting the proper filter. In most cases you will probably be able to base your own installation on these recommendations for typical installations.

### Placing The Filter At the Compressor

The standard compressor installation consists of a compressor, a water-chilled aftercooler, and a receiver. The filter should be installed downstream from the receiver or, at least 50 feet from the compressor. In a system with an efficient aftercooler, the distance from the receiver to the filter is not important. Since the filter is usually maintained by the personnel responsible for the compressor, it is often convenient to install the filter downstream from the receiver. If there is no aftercooler, or the aftercooler is not efficient, coalescing filters should be installed as close to the point(s) of use as possible.



### Compressor Filter Specifications

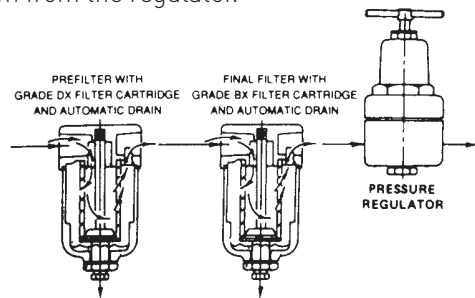
8000 Series Filter Cartridge	Grade DX
Filter Housing	Determine filter size from flow chart on page 3, but port size must be equal to or larger than the line size
Automatic Drain	Recommended
Differential Pressure Indicator	Recommended

Some compressor installations do not have an aftercooler (this is an undesirable situation). Air saturated with water vapor leaves a compressor at 240°F to 400°F (116°C to 204°C). Without an aftercooler, the air cools close to room temperature in the distribution lines and water condenses throughout the air distribution system. About two-thirds of the total water content of the air will be condensed when the air has cooled to 100°F (38°C). A filter located immediately upstream from where the main air line branches into smaller distribution lines will remove most of the water load from the system. The filter requirements for the

main line are described above; they are the same as for a system with an aftercooler. However, since the air will continue to cool in the distribution system, additional filters located at end-use points will be required to remove water that condensed downstream from the main line filter.

### Placing The Filter At The Point-Of-Use

Whether or not the system has an aftercooler, we strongly recommend a filter at each critical end-use point, even if a main line Grade DX filter has been used. The point-of-use filters will remove dirt and oil which may have been in the distribution lines, as well as water that has condensed downstream from the main filter. If there is a pressure regulator at the end-use point, the filter should be installed immediately upstream from the regulator.



### Point-of-Use Filter Recommendations

8000 Series Filter Cartridge	Grade BX
Filter Housing	Size from flow chart (see page 3) or by line size. Port size must be equal to or larger than line size.
Automatic Drain	Recommended
Differential Pressure Indicator	Optional

If there is no Grade DX filter upstream from the final filter, or if a significant amount of water or oil is expected, then a two-stage system, Grade DX followed by Grade BX, is required at each use point. The housing and automatic drain for the Grade DX prefilter should be the same as for the Grade BX final filter (if the flow capacities permit).

Even if the application is not particularly sensitive to impurities in the air - for example, an air-driven tool - it is still good practice to remove condensed water with a filter at the end of the line. We recommend a single-stage Grade DX filter with automatic drain.

# Filter Installation Recommendations Parker Filtration 8000 Series

## Using Filters With Air Dryers

Properly-specified filters are relatively inexpensive protection for air dryers. Refrigerated, membrane, and desiccant dryers benefit from filter protection.

### Refrigerated Dryers

A Grade DX prefilter with an automatic drain should be installed upstream from a refrigerated dryer to prevent oil and condensed water from entering the dryer. Oil entering a dryer coats the cooling coil and reduces its efficiency; condensed water increases the cooling load and reduces dryer capacity. A dryer that was in operation before an 8000 Series filter was installed may already have oil inside it. Therefore a second filter, a Grade BX filter with automatic drain, must be installed downstream from the dryer if oil-free air is required.

### Desiccant Dryers

Desiccant dryers are very sensitive to water and oil droplets. Water can saturate the desiccant and reduce its drying efficiency or even destroy it. Oil can coat the desiccant, rendering it ineffective, or the oil can accumulate on the desiccant and create a combustion hazard when the desiccant is heated for regeneration.

For maximum protection of the desiccant dryer, a two-stage filter (Grade DX followed by Grade BX) system with automatic drains should be installed upstream from the dryer. To protect downstream delivery points from abrasive desiccant particles, a high efficiency filter with high solids holding capacity should be installed downstream from the dryer. The Grade DX filter cartridge is recommended for this downstream installation location.

### Membrane Dryers

Membrane air dryers are sensitive to water and oil droplets. Oil can permanently damage the hollow fiber core. Two stages of coalescing filters (Grade DX followed by BX) remove contaminants down to 0.01 micron. Most competitive membrane dryers are not assembled with adequate prefiltration protection and should be protected with a two stage Filter System (Grade DX, Grade BX). For additional information, see the Membrane Air Dryers section, pages 46-49.

## Sterile Air Filters

- **Remove all viable organisms**
- **USDA accepted for use in federally inspected Meat and Poultry Plants**
- **Low pressure drop**
- **Full compliance with FDA requirements**

Grade SA filter cartridges, rated at 99.9999+% efficiency for 0.1 micron particles, are at least 30 times better than the accepted standard for sterile air filters developed by independent research organizations in the US and UK. These sterile air filters are in full compliance with the requirements of the FDA.

“This sterile air system produces commercially sterile air and, to the limits of detection, no viable colonies of micro-organisms were found”.

- Professor David A. Evans, Ph.D.

## Maintaining The Filters

In a typical compressed air delivery system, a properly specified filter cartridge can be expected to last for up to one year. The filter cartridge can continue to coalesce indefinitely, but solids loading in the depth of the cartridge will cause a pressure drop through the housing. The 8000 Series filter should be changed when the pressure drop reaches 10 psi. At pressure drops higher than 10 psig, the cartridge will continue to perform at its rated efficiency, but downstream instrumentation may be affected by the pressure drop. To monitor the condition of the filters, install a Differential Pressure Indicator (DPI) on a filter or across a multi-filter installation. The DPI gives a visual indication of differential pressure through the filter cartridge. The Differential Pressure Indicator (P/N 41-070) is optional on the 1/4" and 1/2" Compressed Air Filter Assemblies. For 1/2" NPT and smaller, the 41-070 DPI may be easily connected to "Teas" upstream and downstream from the filter. The 3/4" NPT and larger filter assemblies have pre-drilled pressure taps to accommodate the 41-083 DPI.

# 8000 Series 1/4" to 2" Line Size Filters

## Models 8A02

Models 8A02N-0B2, 8A02N-0BD, 8A02N-0BP are 1/4" line size assemblies with simple, reliable "automatic" drains used for low flow applications with moderate levels of liquid contaminate. The 8A02N-0BP is designed to empty condensate when there is a sudden pressure drop through the system (intermittent compressed air demand applications). The 8A02N-0BD incorporates an overnight drain which will drain liquid contaminate when the compressed air system pressure drops below 5 psig. The 8A02N-0B2 utilizes a standard manual threaded drain. All models have a transparent polycarbonate bowl with an aluminum head.



Model 8A02



Models 8B02,  
8C02, 8B04, 8C04

## Models 8B02, 8C02, 8B04 and 8C04

Model 8B02 is a 1/4" line size assembly. Model 8B04 is a 1/2" line size assembly. Both are equipped with a manual drain, transparent nylon bowl, and are suitable choices when space is limited. The 8C02 and 8C04 are equipped with aluminum bowls. These housings are available with a manual drain, without a DPI. Order either 8B02N-0A2, 8B04N-0A2, 8C02N-0A2 or 8C04N-0A2

## Models 8002, 8003, and 8004

Models 8002 and 8003 are 1/4" and 3/8" line size assemblies. These filters have increased liquid holding capacity and are equipped with high capacity float drains, differential pressure indicators, sightglass, pressure relief valve, and 1/4 turn bayonet bowl closures. The 8004 series is designed to service 1/2" compressed air lines with low flow rates.



Model 800X Series



Model 8104 Series

## Model 8104

The Model 8104 is a 1/2" line size assembly with an aluminum bowl. The filter housing has a large liquid holding capacity and a high capacity float drain, differential pressure indicator, sightglass, pressure relief valve, and 1/4 turn bayonet bowl closure.

## Models 8206, 8208, 8312, and 8D16

The Model 8206 filter assembly has 3/4" NPT inlet and outlet ports and an automatic float drain and differential pressure indicator installed. The Models 8208, 8312, and 8D16 filter assemblies have 1", 1 1/2", and 2" NPT inlet and outlet ports, respectively; these models are also equipped with automatic drains and differential pressure indicators. Materials of construction are shown in the charts.



Models 8206, 8208, and  
8312

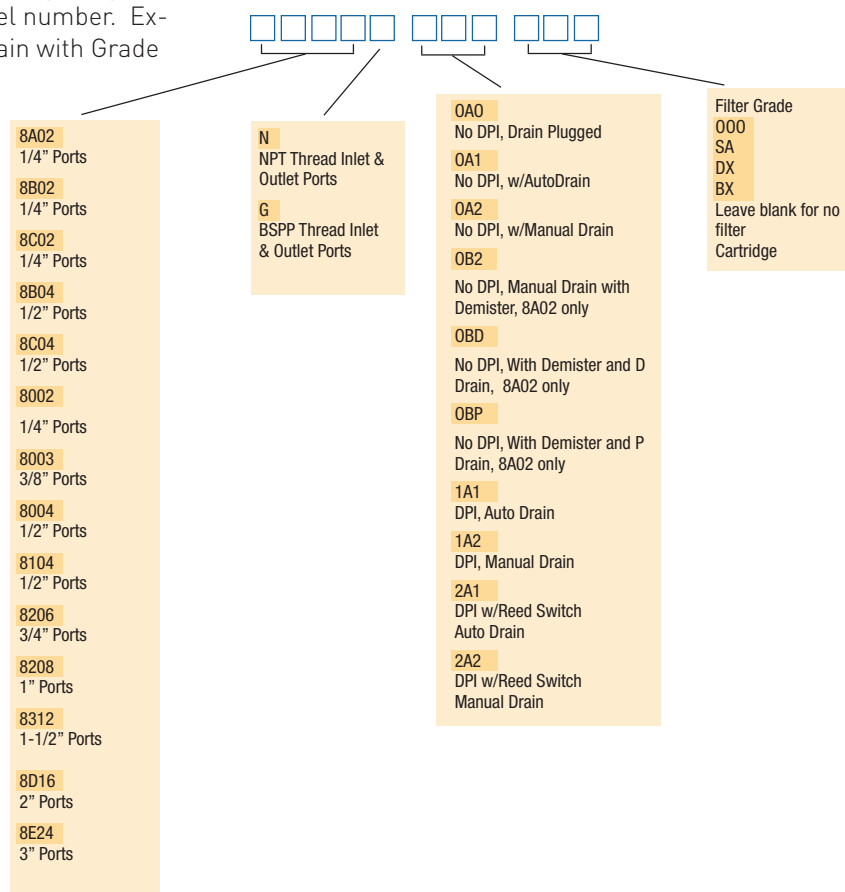


Model 8D16

# 8000 Series Ordering Information

## How to Order the Filter Assembly

Build your own custom filter assembly using the guideline matrix below and specify your model number. Example: 1/2" filter with DPI and Auto Drain with Grade DX Filter = 8104N-1A1-DX



## How to Select the Filter Cartridge and Housing

- Decide which grade(s) of filter cartridges fits the application (see selection boxes at left).
- Select the filter housing with a port size equal to the line size where the filter is to be located.
- For a new installation in which the line size has yet to be selected, determine the gas flow rate and pressure at the point where the filter will be located, and then refer to the flow chart on the reverse side of this data sheet. NOTE: The filter port size must be equal to or larger than the line size (when specified).
- Each assembly is shipped with the filter cartridge installed. To order additional filter cartridges, indicate the model number of the cartridges, and the grade. Examples: 050-05-DX, 050-05-BX. The grade used for Type CI cartridges is 000 (CI-100-12-000).
- For CRN rated assemblies, insert a "C" in the Model #. Example 2A-C8004N-3A1)

Note: Assemblies with CI Cartridges are shipped with the adsorbent cartridge wrapped separately. This shipping method prolongs the life of the cartridge.

# 8000 Series 1/4" to 2" Line Size Filters

## Principal Specifications

Model	8A02 (6)	8B02, 8C02, 8B04, 8C04 (6)	8002, 8003, 8004 (1)	8104 (1)
Port Size	1/4" NPT	1/4" NPT or 1/2" NPT	1/4", 3/8", 1/2" NPT	1/2" NPT
Materials of Construction				
Head	Anod. Alum.	Anod. Alum.	Anod. Alum.	Anod. Alum.
Bowl	Polycarbonate	see page 9	Anod. Alum.	Anod. Alum.
Internals	Nylon	Nylon/steel	Nylon	Nylon
Seals	Buna-N	Buna-N	Buna-N	Buna-N
Maximum Temperature	120°F (49°C)	120°F (49°C)	130°F (54°C) (2)	130°F (54°C) (2)
Maximum Pressure	150 psig (10.3 barg)	150 psig (10.3 barg)	250 psig (17.2 barg) (2)	250 psig (17.2 barg) (2)
Minimum Pressure (3)	5 psig (0.4 barg) (3)	15 psig (1.03 barg)	15 psig (1.03 barg) (4)	15 psig (1.03 barg) (4)
Shipping Weight	0.5 lbs. (0.2 kg)	1.3 lbs. (0.6 kg)	2.0 lbs. (0.9 kg)	2.5 lbs. (1.1 kg)
Dimensions	1.5"W X 4.0"L (4cm X 10cm)	3.5"W X 5.6"L (9cm X 14cm)	3.3"W X 8.5"L (8cm X 20cm)	3.3"W X 11.3"L (8cm X 28cm)
Differential Pressure Indicator	Not Included	Not Included	Optional	Optional
Replacement Filter Cartridges No. required	1		1	1
Box of 4 (4)	4/050-05-□	4/100-09-□	4/100-12-□	4/100-18-□
CI Cartridge Box of 1 (5)	—	—	DCI-100-12-000	DCI-100-25-000

### Notes:

**1** Automatic drain and Differential Pressure Indicator are temperature limiting factors. For Temperature capabilities to 220°F (104°C), order assemblies without automatic Drain and Differential Pressure Indicator.

**2** Maximum pressure ratings are for temperatures to 130°F (54°C). Please consult factory for maximum pressure ratings at elevated temperatures.

**3** Required for proper operation of piston drain, overnight drain, or float drain.

**4** Indicate grade of filter cartridge by putting appropriate letter after ordering number (please refer to the table on page 21). To order assembly with Type CI cartridges, add-000 after assembly number. Example: 8104N-0A0-000

**5** Automatic drains not supplied with assemblies containing Type CI cartridges.

**6** Housing not available with CI cartridge, or SA filter.

**7** For CRN rated housings, insert a "C" in the Model #. Example: C8004-1A1-DX

## Principal Specifications

Model	8206	8208	8312	8D16
Port Size	3/4" NPT	1" NPT	1 1/2" NPT	2" NPT
Materials of Construction				
Head	Anod. Alum.	Anod. Alum.	Anod. Alum.	Anod. Alum.
Bowl	Steel	Steel	Steel	Steel
Internals	St. Steel	St. Steel	St. Steel	St. Steel
Seals	Buna-N	Buna-N	Buna-N	Buna-N
Maximum Temperature (1)	130°F (54°C)	130°F (54°C)	130°F (54°C)	130°F (54°C)
Maximum Pressure (2)	250 psig (17.2 barg)	250 psig (17.2 barg)	250 psig (17.2 barg) (2)	250 psig (17.2 barg) (2)
Minimum Pressure (3)	5 psig (0.4 barg) (3)	15 psig (1.03 barg)	15 psig (1.03 barg) (4)	15 psig (1.03 barg) (4)
Shipping Weight	8 lbs. (3.6 kg)	8 lbs. (3.6 kg)	15 lbs. (6.8 kg)	11 lbs. (5 kg)
Dimensions	4"W X 13"L (10cm X 33cm)	4"W X 13"L (10cm X 33cm)	5.0"W X 17L" (13cm X 43cm)	6.3"W X 28"L (16cm X 71cm)
Differential Pressure Indicator	Optional	Optional	Optional	Not Included
Replacement Filter Cartridges No. Required	1	1	1	1
Box of 4 (5)	4/150-19-□	4/150-19-□	4/200-35-□	4/200-80-□
DCI Cartridge (Box of 1)	DCI 150-19-000	DCI 150-19-000	DCI 200-35-000	DCI 200-80-000