

Bulletin OEM



The Parker Hannifin Filtration Group assures:

- Consistent quality
- Technical innovation
- Premier customer service

Parker's technical resources provide the right filtration technologies that conform to your requirements. That's why thousands of manufacturers and equipment users around the world rely on Parker Filtration products and people.

Worldwide Sales and Service

Parker operates sales and service centers in major industrial areas worldwide. Call 1-800-C-PARKER for more information and for a synopsis of our Filtration Technology Textbook.

Hydraulic, Lubrication & Coolant Filtration

High-performance filtration systems for production machinery in industrial, mobile and military/marine.



Compressed Air/Gas Filtration and Separation

Complete line of compressed air/gas filtration products and gas generators for many industrial and laboratory applications.



Process & Chemical Fluid Filtration

Liquid filtration systems for beverage, chemical and food processing; cosmetic, paint, water treatment; photo-processing; and micro-chip fabrication.



Fuel Conditioning & Filtration

Parker air, fuel and oil filtration systems provide quality protection for engines operating in any environment, anywhere in the world.



Legal Notifications



WARNING

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The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

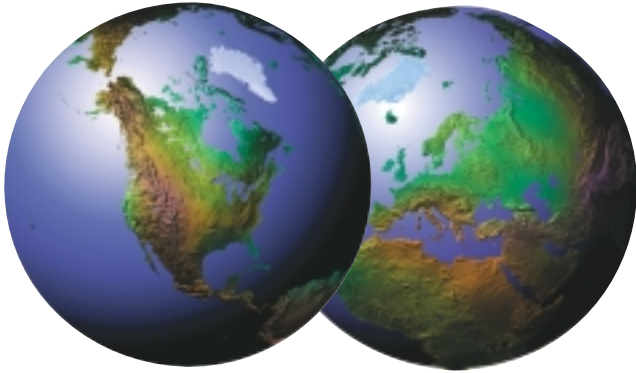
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Parker Balston® Custom Product Capabilities





Customer Driven

Competitive pricing
Fast deliveries
Flexible blanket terms to maximize your cost savings
Sample programs that enable you to test with minimal risk
Trial programs
ISO 9001 Certified
Global Service and Support

Commitment

Parker Hannifin Corporation is dedicated to providing new and innovative filtration and gas purification technology for use in the most demanding industrial and scientific applications. As a technology leader, our organization is committed to developing, manufacturing and marketing superior quality products and services worldwide.

Quality

We are very proud of our worldwide reputation for quality. Quality is our first priority from the day we discover the need for a new filtration product to the day you install the new product in your system. Parker Hannifin Corporation is an international organization specializing in high quality filter products and related separation equipment. Balston products have an outstanding reputation for quality and uniformity that has established the Balston brand as an accepted standard for industrial filtration. Balston products are all manufactured at facilities approved under ISO 9001 standards.

Let Parker Hannifin Corporation review your OEM product requirements, we'll save you money while providing flexible engineering, exceptional service and a team focused on the OEM customer and needs.

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem

Filter Media



Balston
Filter Media

High efficiency particulate filtration from
75 micron to 0.01 micron

Wide range of sizes and flow rates available

Cost effective, self sealing designs

Efficiencies from 93% to 99.9999%

For use in gas or liquid streams

Minimal pressure drop

Filter Media

Balston branded filter media has been manufactured in the USA for over thirty years. Our capabilities and expertise are unmatched throughout the world. Balston filter media is available in a wide range of custom sizes and configurations as well as hundreds of standard designs. We can assist in identifying your needs and offer suggestions on the best way to meet your application requirements. If you have a custom size requirement, we can develop a product that meets your needs.

Parker Hannifin Corporation has an extensive range of materials to suit the different applications you might encounter. More importantly, we have the expertise to formulate these materials into the high efficiency media you need for your application. Our technology also enables us to develop and formulate media from new materials every day.

Challenge Parker Hannifin Corporation with a specific efficiency and flow characteristic, if we do not already manufacture a grade that suits your needs...we'll develop one utilizing our team of knowledgeable engineers and scientists.

Custom Parameters

Media shape:	Cylindrical, flat sheet
Element sizes:	Dia. from 1/2" to 3" Lengths from 1/2" to 20"
Filtration efficiency:	80% to 99.9999%
Particulate removal:	75 micron to 0.01 micron
Sealing mechanisms:	Self sealing, axial compression; endcaps
Temperature range:	-150°F to 900°F (-65°C to 482°C)
Materials of construction:	Glass fiber, quartz fiber, polyolefins, high performance polymers, activated carbon fiber, Teflon**, PVDF

**Teflon® is a registered trademark of the Dupont Company.

Applications

- General purpose compressed air filtration
- Instrument air filtration
- Protection of pneumatic control components
- Bacterial removal from air for food, medical, and dental use
- Protection of pneumatic process equipment
- Filtration of samples to analyzers
- High purity liquids
- Bacteria and parasite removal from water

For additional information

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Nitrogen Generators



Balston Nitrogen Generators

Membrane and Pressure Swing technologies available

Eliminates the inconvenience of cylinder gas

Membrane systems require no electricity

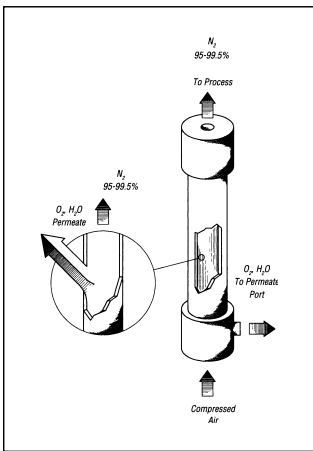
Long term cost stability

Components can be built into OEM equipment

Nitrogen Generators

Parker Hannifin Corporation manufactures a full line of nitrogen generators which are sold under the Balston brand. These generators are field proven over the past ten years in a variety of applications from chemical blanketing to food packaging and gas assist injection molding. The nitrogen generator product line is available for re-sale into niche applications. The nitrogen generator components and technologies are available for assembly into OEM equipment.

Balston Nitrogen Generators use hollow fiber membrane and pressure swing adsorption, state-of-the-art technologies to deliver high purity nitrogen from compressed air. These technologies are used to separate and purge oxygen, water and carbon dioxide molecules to produce a high purity, pressurized flow of nitrogen gas. The technology intensive components which separate the air are well protected by high efficiency Balston coalescing filters and adsorption cartridges.



Custom Parameters

Nitrogen purities	95% to 99.9%
Flow rates	.02 lpm to 20 scfm
Operating pressure	60 to 145 psig
Product configuration	Cabinet systems Component systems

Applications

- Chemical and solvent blanketing
- Gas assist injection molding
- Food packaging and processing
- Analytical instrument purging
- Mixing and sparging of solutions

For additional information

call toll-free at 1-800-343-4048

or fax us at 1-978-858-0625

or visit our website at: www.parker.com/oem

Disposable Filter Units



Balston
Disposable Filter
Units

Custom Parameters

Fitting configuration:	Tube ends Threaded ports O-ring barbed seal
Filter sizes:	Dia. from 1/2" to 3" Lengths from 1" to 6"
Filtration efficiency:	80% to 99.9999%
Particulate removal:	50 micron to 0.01 micron
Temperature range:	0°F to 250°F (-7°C to 121°C)
Materials of construction:	Polycarbonate, nylon, PVDF, Teflon, Halar

Compact in-line design

Available with liquid drain port and various indicators

Wide range of filter efficiencies

Resistant materials of construction

Pressures up to 125 psig

Lightweight, cost effective

Choice of port size and configuration

Disposable Filter Units

Parker Hannifin Corporation manufactures the Balston branded Disposable Filter Unit (DFU) which incorporates our extensive media capability with a small, inexpensive, disposable housing. This unique design was introduced to the filtration industry over 20 years ago. Balston DFU's are available in custom sizes and configurations as well as standard designs. A wide range of filter media is available to configure application specific filtration. We can also design a disposable filter housing that suits your application needs.

Parker Hannifin Corporation pioneered oil indicating technology over 15 years ago. We have recently developed new indicators to monitor the condition of various fluid streams. For instance, bacteria indicators for food, medical and dental applications and moisture indicators for air lines.

Applications

- Protection of pneumatic controls
- Instrument air filtration
- Filtration of samples to analyzers
- Indication of moisture, oil, or bacteria present in air or gas

For additional information

call toll-free 1-800-343-4048

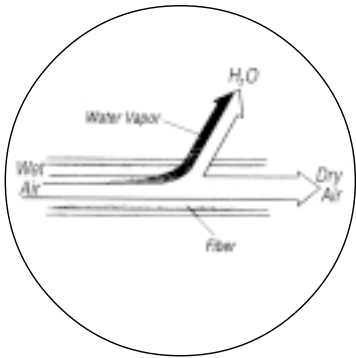
or fax 1-978-858-0625

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Membrane Air Dryers



Balston
Membrane Air
Dryer Modules



Water vapor quickly permeates the membrane, and is released harmlessly to atmosphere. Air flows along the membrane fiber as a separate product stream.

Custom Parameters

Dewpoints:	50°F to -40°F (10°C to -40°C)
Pressures:	40 psig to 150 psig
Flow rates:	1slpm to 100 scfm
Module sizes:	Dia. from 5/8" to 3" Lengths from 8" to 30"
Port sizes:	1/8" to 1/2" NPT
Private labeling available	

For additional information

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State-of-the-art membrane technology

No electricity required, no moving parts

Dewpoints as low as -100°F (38°C)

Explosion proof

Silent operation

No desiccant to change

No refrigerants or freons

Membrane Air Dryers

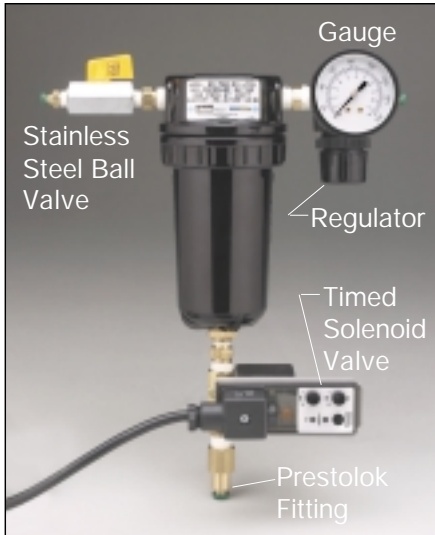
Parker Hannifin Corporation's OEM customer support team will propose a convenient and cost effective solution to your air drying requirement. Balston Membrane Air Dryers are small, lightweight, and economical.

Using our state-of-the-art membrane manufacturing capabilities, Parker Hannifin Corporation is able to quickly respond to any customer's requirements. Our ability to meet customer requirements extends beyond flow, pressure, and dewpoint. Parker Filtration is able to address needs concerning size, inlet and outlet port configuration, air consumption, private labeling, product literature, installation manuals, and custom color. Our compact membrane modules range from 5/8" dia. X 12" long up to 3" dia. X 40" long, and can handle flows from 1slpm to 100 scfm.

As the value leader, we have merged our superior coalescing technology with a proven, innovative membrane system capable of supplying oil and particulate free, dry compressed air to dewpoints as low as -40°F (-40°C) and beyond.

Applications

- Low dewpoint instrument air
- Prevention of freeze-ups
- Purging electronic cabinets and environmental chambers
- Dry air to power air bearings
- Dry air for spray applications
- Dry air for medical and dental applications



Balston Filtration Assembly

Single Sourcing of Components

- Vendor Consolidation
- Reduce Purchasing/Administration Costs
- Consistent, Planned Lead Times
- Consistent Quality
- System integrity
- Premier Customer Service
- ISO 9001 Certified Facility

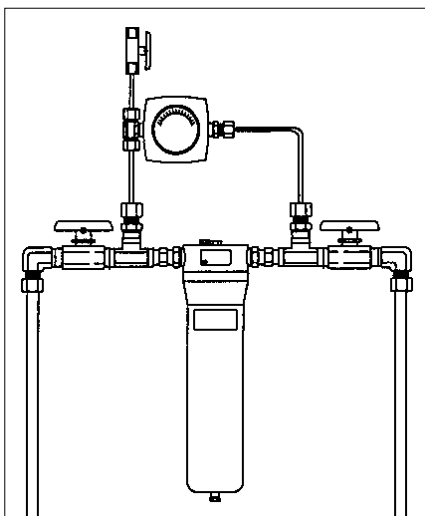
Available Components			
Component	Brass	Stainless	Plastic
Fittings and Adaptors	✓	✓	✓
Ball Valves	✓	✓	
Solenoid Valves	✓	✓	
Check Valves	✓	✓	
Hose and Tubing	✓	✓	✓
Quick Couplings	✓	✓	✓
Regulators	✓	✓	

Kits and Assemblies

At Parker/Balston, we are always looking for ways to improve the products and services we offer to our OEM customers. We are committed to providing our customers with the most comprehensive filtration system to meet the most demanding requirements. We are putting our application engineering expertise to work for you by being the single source solution for your entire filtration system. Parker/Balston will bring together filters, membrane air dryers, or nitrogen generators, with any Parker component(s) to provide you with the ideal assembly.

Ordering a complete filtration assembly or kit from Parker brings with it all of the benefits you have come to expect: quality, system integrity, worldwide distribution, extensive field support and customer service. It also puts the application expertise of Parker/Balston's OEM engineers to work for you, insuring that the filtration system performs to your specifications.

Local Parker/Balston sales engineers can provide technical assistance on system design and specific product use. These factory trained professionals can sit down with you and your staff to develop cost effective solutions for your filtration and/or separation requirements.



Schematic of Filtration Assembly

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem

Kits and Assemblies



Instrumentation Fittings and Adaptors

Single and double ferrule compression fittings, pipe fittings and adapters and tube fabrication equipment are available.



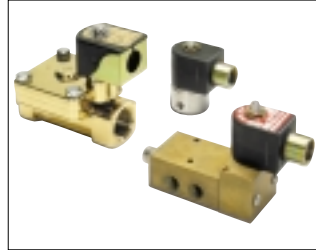
Ball Valves

Low and high pressure, in brass, stainless steel, and carbon steel. Sizes from 1/4" through 2" and pressures up to 6000 psi. A variety of port configurations available.



Instrumentation Valves

Manual, pneumatically and electrically actuated ball valves, needle valves, relief valves, check valves, and manifold configured valves are among those available.



Solenoid Valves

Solenoid valves control fluids and gases in numerous applications.



Precision Regulators for Gas and Fluids

Precision single and two stage regulators, backpressure regulators, and continuous gas management systems.



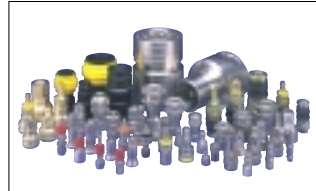
Industrial Tube Fittings

Complete line of brass compression fittings, pipe fittings and adapters, and Prestolock (push in) fittings are available.



Hose & Tubing

Hose available in sizes from 1/8" to 2" I.D. Braided or spiral reinforcements in steel or textile materials. Tubing in a variety of materials and colors.



Quick Couplings

Instrumentation grade quick couplings are available valved and unvalved in 303 and 316 stainless steel and brass. Sealing integrity to 1 x 10⁻⁶ cc/sec helium at 50 millitorr. Sizes through 2 1/2".

Filter Assemblies



Parker Balston Assembly consisting of a filter/regulator and brass fittings/adaptors.



Parker Balston Assembly consisting of a stainless steel filter housing and stainless steel fittings.



8000 Series Compressed Air Filters





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

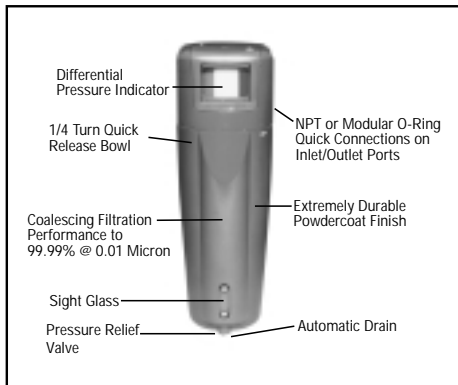
Maximum pressure from 250 to 665 psig

Maximum temperature to 130°F

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.



For additional information

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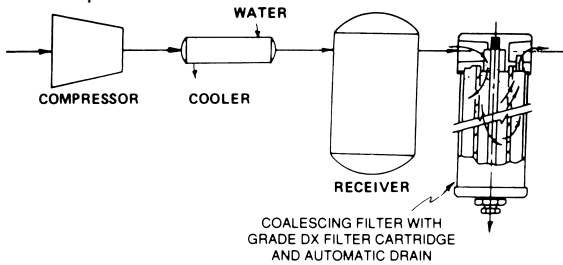
Filter Installation Recommendations

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

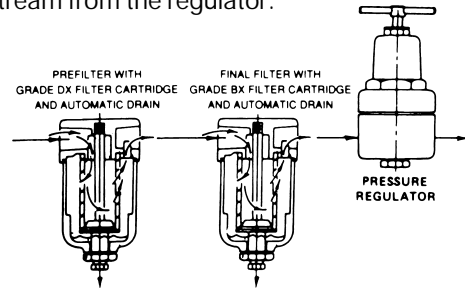
Some compressor installations do not have an aftercooler (this is an undesirable situation). Air saturated with water vapor leaves a compressor at 240°F to 400°F (116°C to 204°C). Without an aftercooler, the air cools close to room temperature in the distribution lines and water condenses throughout 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

Compressed Air Filters Parker Filtration 8000 Series

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

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 19-24.

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

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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 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 "Tees" 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-OB2**, **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-OBP 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-OB2 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



Model 800X Series



Model 8104 Series

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 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, and 8312



Model 8D16

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.

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 4	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	150 psig	250 psig (2)	250 psig (2)
Minimum Pressure (3)	5 psig (3)	15 psig	15 psig (4)	15 psig (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.

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	250 psig	250 psig	250 psig
Minimum Pressure (3)	15 psig	15 psig	15 psig	15 psig
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 17"L (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	

Filter Regulators

Filter-Regulator Combinations

Balston Filter-Regulators combine a high efficiency coalescing filter with a high quality pressure regulator. Air flows through the filter, then to the pressure regulator. The filter is a Balston coalescing compressed air filter (Grade BX) and will completely remove oil, water, and dirt from compressed air and other compressed gases. For the 12 E Series, flow direction through the element is inside-to-outside for optimum oil and water removal. For Model B14E15B13FL, flow direction is outside-to-inside. This filter removes particulates, 5 micron and larger, from compressed air and gases. An automatic drain is installed on the 3/8", 1/2", and 3/4" models offering maintenance-free operation. Pressure gauges are standard and are available in up to 4 different ranges (see ordering information).



12E Series



Model B14E15B13FL

Principal Specifications				
Model	12E27	12E37	12E47	B14E15B13FL
Port Size	3/8" NPT	1/2" NPT	3/4" NPT	1/4" NPT
Gauge Ports	1/4" NPT	1/4" NPT	1/4" NPT	1/8" NPT
Materials of Construction				
Head	Zinc	Zinc	Zinc	Zinc
Bowl	Zinc	Zinc	Zinc	Polycarbonate
Bonnet	Plastic	Plastic	Plastic	Plastic
Internals	Zinc/Nitrile	Zinc/Nitrile	Zinc/Nitrile	Zinc/Nitrile
Maximum Temperature	125°F (52°C)	125°F (52°C)	125°F (52°C)	120°F (49°C)
Maximum Pressure (2)	250 psig	250 psig	250 psig	125 psig
Minimum Pressure	15 psig (1)	15 psig (1)	15 psig (1)	2 psig
Shipping Weight	2.5 lbs. (1.1 kg)	2.5 lbs. (1.1 kg)	2.5 lbs. (1.1 kg)	1.0 lbs. (.45 kg)
Dimensions	3.25"W X 13"L (8cm X 33cm)	3.25"W X 13"L (8cm X 33cm)	3.25"W X 13"L (8cm X 33cm)	1.6"W X 6.2"L (16cm X 4cm)

Notes:

1 Minimum operating pressure for automatic drain is 15 psig.

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

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem

Filter Regulators

Ordering Information				
Model	12E27	12E37	12E47	B14E11B13F
Control Gauge Pressure Range				
0-30 psig	see ordering matrix below	→	→	0-13 psig
5-60 psig	see ordering matrix below	→	→	
10-130 psig	see ordering matrix below	→	→	
Auto. Drain (1)	Included	Included	Included	Included
Replacement Filter Cartridges				
Number Required	1	1	1	PS403 (Box of 1)
Box of 5	5/130-14-BX	5/130-14-BX	5/130-14-BX	
Box or 10	130-14-BX	130-14-BX	130-14-BX	

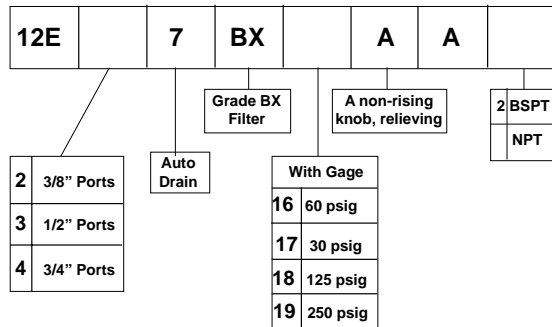
Notes:

1 Minimum operating pressure for automatic drain is 15 psig.

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

How to Order

To order product with desired port size and Regulating Pressure Range, select the indicator digits from the matrix (at right). This will complete the entire model number which is needed to place an order.



For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem

3" Line Size Filters

Remove 99.99% of 0.01 micron particles of oil, water, and dirt

Equipped with automatic drains

Maximum temperature to 250°F (121°C)

Maximum pressure to 325 psig

8E24N Multiple Cartridge Filter Assembly

This filter assembly provides high efficiency filtration of compressed air and other compressed gases at very high flow rates. With inlet and outlet ports accommodating 3" pipe size, the filter will handle a capacity of 28,000 SCFM at 100 psig. The standard carbon steel unit has a pressure rating of 325 psig. This model has built-in legs for floor mounting. Special high pressure units can be provided with ASME code stamp for pressure ratings to 665 psig.

The filter cartridges are sealed by tightening the threaded retainer cap onto the rigid tie rod. Since the filter cartridges are self-gasketing, the only resilient seal in the system is the o-ring in the head of the vessel.

This Assembly can be equipped with a stainless steel automatic float drain (P/N 20-211), differential pressure indicator (P/N 41-071), and a set of filter cartridges (except where noted).



Model 8E24N

Principal Specifications	
Model (2)	8E24N
Port Size	3" NPT
Materials of Construction	
Vessel	Carbon Steel
Filter Cartridge Holders	303 St. Steel
Seals	Buna-N
Maximum Temperature (1)	250°F (121°C)
Maximum Pressure	325 psig
Minimum Pressure (3)	10 psig
Shipping Weight	132 lbs. (60 kg)
Dimensions	6.6"W X 36"H (17cm X 92cm)
Flange Center Line to Floor Dimension	7.6" (19 cm)

Notes:

1 Maximum operating temperature of carbon steel vessel is 650°F (343°C). Minimum operating (process and ambient pressure) temperature is -20°F (29°C). Max. Temps. for Seal material: 250°F (Buna), 400°F (Viton), 450°F (Silicone). Seal material may not be the limiting factor. **Maximum temperature for assemblies with DPI is 130°F (54°C)**

2 8E24N Filter Assemblies can be shipped complete with Automatic Drain (P/N 20-211), Differential Pressure Indicator (P/N 41-071), and one set of filter cartridges.

3 Maximum operating pressure for 41-071 Differential Pressure Indicator is 250 psig. The DPI is sensitive in the range of 0-7 psi differential. The Maximum operating pressure for 20-211 Auto Drain is 400 psig. Minimum operating pressure is 10 psig.

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem

Modular Configurations - 1/4" to 1 1/2" Line Size

Available in 12 different sizes and configurations

Available as two or three stage assemblies

Parker Filtration 8000 Series are available in stock as modular assemblies for the ease and convenience of our OEM customers. Simply purchase the correct two stage or three stage assembly for the application and integrate directly into your product without the need of added labor and parts to assemble and install.



Model 3A-8002N-3A1

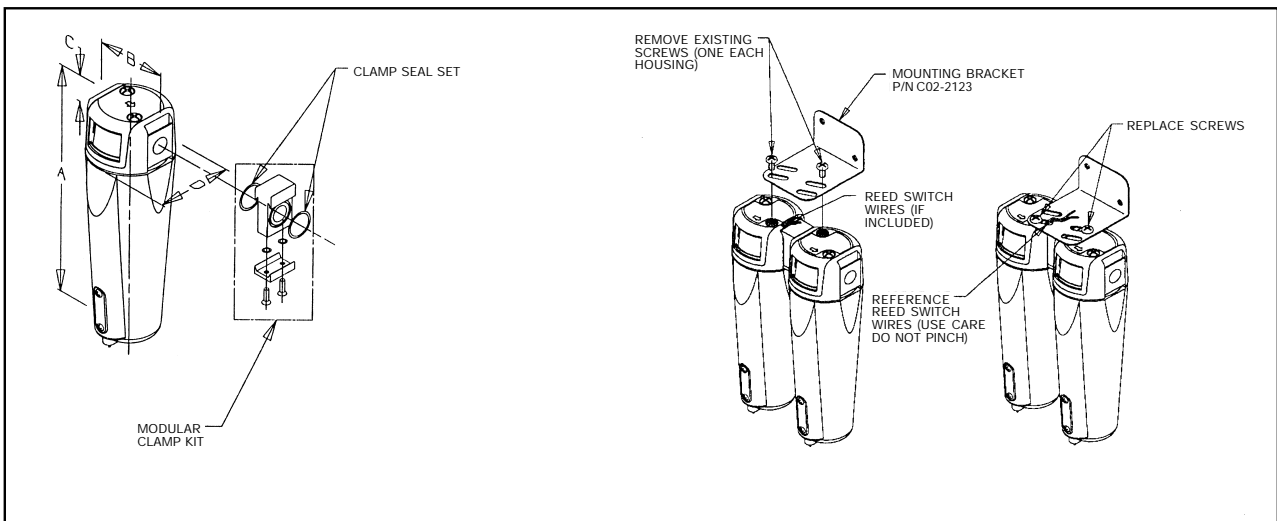
Principal Specifications		
Model	Two Stage (DX, BX)	Three Stage (DX, BX, CI)
1/4"	2A-8002N-3A1	3A-8002N-3A1
3/8"	2A-8003N-3A1	3A-8003N-3A1
1/2"	2A-8004N-3A1	3A-8004N-3A1
3/4"	2A-8206N-3A1	3A-8206N-3A1
1"	2A-8208N-3A1	3A-8208N-3A1
1 1/2"	2A-8312N-3A1	3A-8312N-3A1

All of the above ship assembled with modular clamps and with DX and BX filter elements installed. Auto drains are included on the DX and BX stage and Differential Pressure Indicator on the DX stage only. CI cartridge is included on the three stage assemblies but shipped separately.

Optional Mounting Bracket Size	Number Required	Part Number
1/4, 3/8, 1/2 3/4, 1	Mounting Brackets Optional 1 Mounting Bracket on double assembly (required for weight)	C02-2123 (1/4-1/2" Models) C02-2124 (3/4, 1" Models)
1 1/2	2 Mounting Brackets on triple assembly (required for weight)	C02-2125 (1 1/2" Model)

Notes:

1 The flow rate of the system is calculated by determining the flow rate of the BX or CI cartridge in the system.



Compressed Air Filters Parker Filtration 8000 Series

Flow Rates

Filter Housing Model	Port Size	Filter Cartridge Grade	Flow rates (SCFM), at 2 psi drop at indicated line pressure. Refer to Principal Specification Charts in each product data sheet for maximum pressure rating of each housing PSIG										
			2	20	40	80	100	125	150	200	250	400	650
8A02	1/4"	DX	4	9	13	24	29	36	43	55	67	—	—
		BX	1	2	4	7	8	9	12	15	17	—	—
8002, 8003, 8004 8B02, 8B04, 8C02, 8C04	1/4", 3/8"	DX	9	19	39	51	63	76	90	117	145	—	—
	1/2"	BX	3	8	11	21	25	31	36	47	58	—	—
		CI	2	5	7	12	15	18	22	28	35	—	—
		SA (1)		8	11	21	25	31	36	—	—	—	—
8104	1/2"	DX	19	41	65	113	137	166	196	257	316	—	—
		BX	9	19	30	51	63	76	90	117	145	—	—
		CI	6	12	19	32	39	48	56	73	90	—	—
		SA		19	30	51	63	76	90	—	—	—	—
8206	3/4"	DX	37	78	123	214	259	315	371	484	596	—	—
		BX	10	21	34	56	70	85	101	131	162	—	—
		CI	8	16	26	44	53	65	76	99	122	—	—
8208	1"	DX	55	115	181	314	380	463	546	711	877	—	—
		BX	11	23	37	64	77	94	111	144	178	—	—
		CI	10	20	32	56	67	82	96	125	154	—	—
		SA		23	37	64	77	94	111	—	—	—	—
8312	1 1/2"	DX	98	203	319	554	670	816	963	1254	1546	—	—
		BX	22	46	74	129	155	189	223	290	358	—	—
		CI	16	33	52	91	110	134	158	206	253	—	—
		SA		94	148	256	310	378	445	—	—	—	—
8D16	2"	DX	160	333	525	908	1100	1340	1580	2060	2540	—	—
		BX	45	94	148	256	310	378	445	580	715	—	—
		CI	23	49	77	133	161	197	231	301	371	—	—
8E24	3"	DX	364	760	1190	2060	2500	3045	3600	4680	5770	9030	14480
		BX	90	190	300	510	620	755	890	1160	1430	2240	3590
		CI	47	98	154	266	322	394	462	602	742	1160	1860

Options and Accessories

(1) SA Grade not available in 8004.

Retention Efficiency

Grade	Efficiency for 0.01 Micron Particles and Droplets
DX	93%
BX	99.99%
SA	99.9999+%
000 (CI)	Oil Vapor Removal

Physical Properties, Microfibre Filter Cartridges

Temperature Range	-150°F to 300°F (-100°C - 149°C)
Maximum Pressure Differential Across Filter, Inside-to-Outside Flow:	100 psi
Materials of Construction	Borosilicate glass microfibers with fluorocarbon resin binder. Resistant to water, all hydrocarbon and synthetic lubricants.

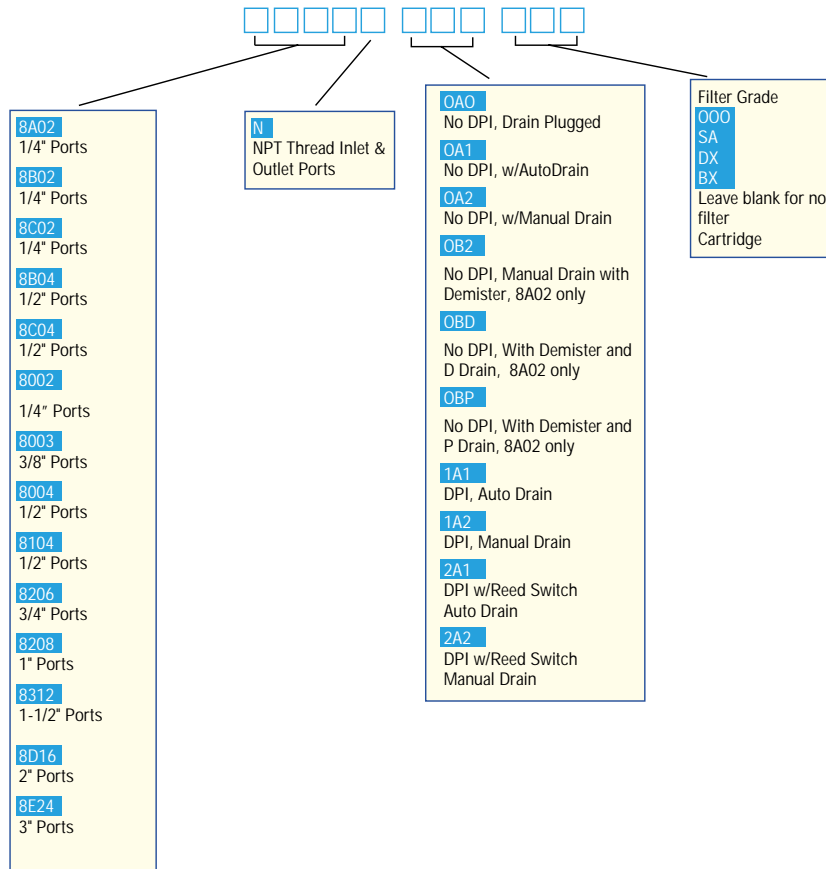
Filter Cartridge Description

General purpose applications such as plant compressed air	Single stage filtration. Use a Grade DX filter cartridge
Instrument air and other critical air requirements	Two stage filtration is necessary. Use a Grade DX followed by a Grade BX filter cartridge. As a general rule, a Grade BX filter cartridge should not be used alone.
Removal of trace compressor oil vapor	For rare instances where even a trace amount of oil vapor can cause a problem, three stage filtration is necessary. Use a Grade DX followed by a Grade BX, and a CI cartridge, Type 000.

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

- 1 Decide which grade(s) of filter cartridges fits the application (see selection boxes at left).
- 2 Select the filter housing with a port size equal to the line size where the filter is to be located.
- 3 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).
- 4 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).

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





Membrane Air
Dryer Model
AD0030-35

Offer a reliable, efficient, and economical alternative to pressure swing and refrigerant dryer technologies

Require no electricity thus lowering operating costs

Dewpoints as low as -40°F (-40°C) prevent freeze-ups

Explosion proof

Silent operation

No desiccant to change

Eliminates point of use condensate discharge typical of refrigerant dryer technology

Membrane Air Dryers

Parker Membrane Air Dryers combine a superior coalescing technology with a proven, innovative membrane drying system to supply clean, dry compressed air with dewpoints as low as -40°F (-40°C). The Parker Membrane Dryers are available in 10 different models which can deliver compressed air at flow rates up to 10 SCFM with a -40°F (-40°C) dewpoint; or deliver compressed air at flow rates up to 40 SCFM with a 35°F (2°C) dewpoint. The Membrane Air Dryers are engineered for easy installation, operation, and long term reliability. The Dryers incorporate high efficiency water separation, coalescing filtration and the highest efficiency membrane available to provide low cost operation and minimal maintenance.

State-of-the-Art Membrane Technology

Water vapor from the compressed air supply passes through the hollow fibers of the membrane. At the same time, a small portion of the dry air product is redirected along the length of the fibers to sweep out the water vapor which has permeated the membrane. The moisture-laden sweep gas is then vented to the atmosphere, and clean, dry air is supplied to the application. The drying power of the membrane is controlled by varying the compressed air flow rate and pressure. The Parker Membrane Air Dryer is designed to operate continuously, 24 hours per day, 7 days per week. The only maintenance required is changing the prefilter cartridge once a year. This annual maintenance takes approximately 5 minutes.

Applications

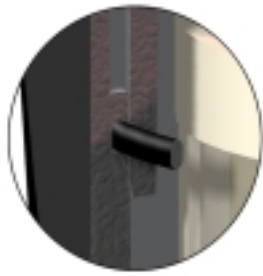
- Low dewpoint instrument air*
- Pneumatic equipment*
- Purging electronic cabinets*
- Analytical instrumentation*
- Prevention of freeze-ups*
- Dry air for hazardous areas*
- General laboratory air supply*
- Air bearings*
- Electrostatic painting*
- Dental air*
- Laser and optical purge*
- Purge moisture sensitive coatings and adhesives*

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

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Captive 'O' Rings
- less need for spares



Figure 1
Dual Layer Filter Element
- long life and high efficiency

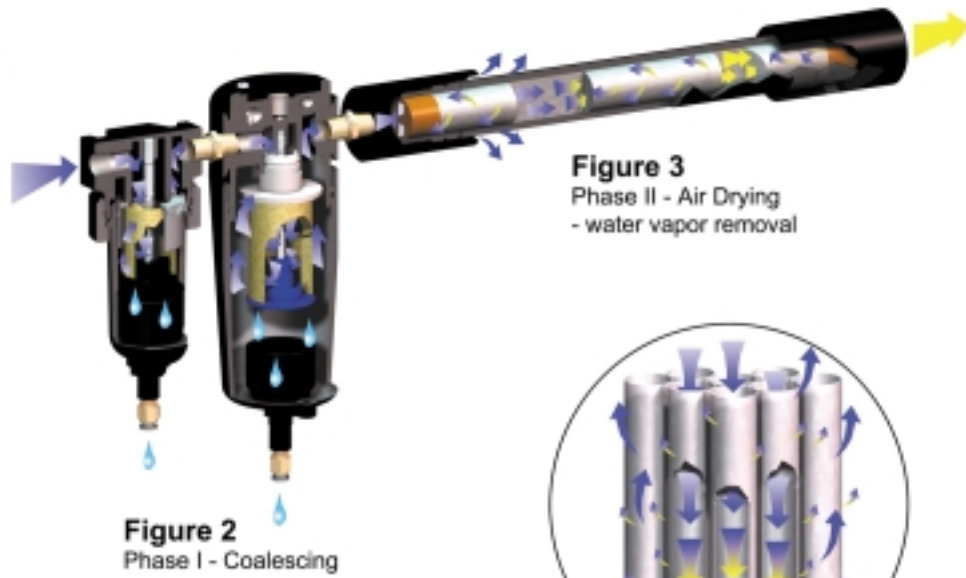


Figure 2
Phase I - Coalescing

Figure 3
Phase II - Air Drying
- water vapor removal

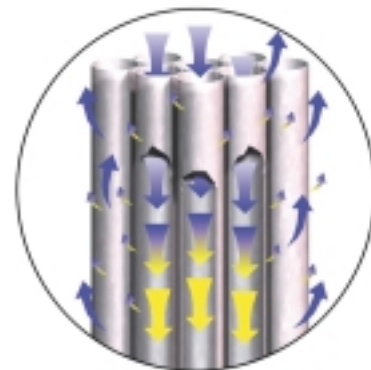


Figure 4
Hollow Fiber Membrane
- permeates only water vapor

Phase I - Coalescing Filtration

Prior to entering the membrane drying module, the compressed air passes through a high efficiency water separator and coalescing filter to remove oil and water droplets and particulate contamination with an efficiency of 99.99% at 0.01 micron. The liquids removed by the filter cartridge continuously drip from the filter cartridge into the bottom of the housing, where they are automatically emptied by an autodrain assembly (see Fig. 1 and Fig. 2). The air leaving the prefilter, therefore, is laden only with water vapor, which will be removed in the membrane module.

Phase II - Drying

The water vapor in the compressed air is removed by the principle of selective permeation through a membrane (see Fig. 3). The membrane module consists of bundles of hollow membrane fibers (see Fig. 4), each permeable only to water vapor. As the compressed air passes through the center of these fibers, water vapor permeates through the walls of the fiber, and dry air exits from the other end of the fiber. A small portion of the dry air (regeneration flow) is redirected along the length of the membrane fiber to carry away the moisture-laden air which surrounds the membrane fibers. The remainder of the dry air is piped to the application.

Membrane Air Dryers Product Specifications



Model AD0010-35
Model AD0002-40



Model AD0030-35
Model AD0008-40



Model AD0080-35
Model AD0020-40



Model AD0200-35



Model AD0050-40



Model AD0400-35
Model AD0100-40

Flow Rates	35°F (2°C) Pressure Dewpoint				
Model Number (3)	AD0010-35	AD0030-35	AD0080-35	AD0200-35	AD0400-35
Product Flow at 100 psig Inlet Pressure	1 SCFM	3 SCFM	8 SCFM	20 SCFM	40 SCFM
Regeneration Flow at 100 psig (2)	0.25 SCFM	0.5 SCFM	1.5 SCFM	3.5 SCFM	6 SCFM

Flow Rates (1)	-40°F (-40°C) Atmospheric Dewpoint				
Model Number (3)	AD0002-40	AD0008-40	AD0020-40	AD0050-40	AD0100-40
Product Flow at 100 psig	0.25 SCFM	0.8 SCFM	2 SCFM	5 SCFM	10 SCFM
Regeneration Flow at 100 psig (2)	0.25 SCFM	0.2 SCFM	0.5 SCFM	2 SCFM	2.5 SCFM

Notes:

1 Dewpoint specified for saturated inlet air at 70°F (21°C) and 100 psig. Outlet flows will vary slightly for other inlet conditions.

2 Total Air consumption = Regeneration flow + outlet flow.

3 If compressed air is extremely contaminated, a Grade DX prefilter should be installed directly upstream from the membrane dryer. Add-DX suffix to Model number. Example: AD0010-35-DX.

Membrane Air Dryers

Specifications and Ordering Information

Principal Specifications

Model Number	AD0010-35 AD0002-40	AD0030-35 AD0008-40	AD0080-35 AD0020-40	AD0200-35 AD0050-40	AD0400-35 AD0100-40
Min/Max Inlet Air Temp. (2)	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)
Min/Max Ambient Temp.	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)	40°F/100°F (4°C/38°C)
Min/Max Inlet Pressure	60 psig/150 psig (4.1 barg/10 barg)	60 psig/150 psig (4.1 barg/10 barg)	60 psig/150 psig (4.1 barg/10 barg)	60 psig/150 psig (4.1 barg/10 barg)	60 psig/150 psig (4.1 barg/10 barg)
Compressed Air Requirement	Total Air Consumption: Regeneration Flow + Outlet Flow Requirements (see tables on page 26.)				
Max. Pressure Drop(3)	3 psid	3 psid	3 psid	5 psid	5 psid
Wall Mountable	Yes	Yes	Yes	Yes	Yes
Mechanical Separator (included) (4)	F14F17B	F06F18B	F06F18B	F07F38B	F07F38B
Coalescing Prefilter(4)	8A02N-OBD-BX	8002N-1A1-BX	8002N-1A1-BX	8104N-1A1-BX	8104N-1A1-BX
Inlet/Outlet Port Size	1/4" NPT (female)	1/4" NPT (female)	1/4" NPT (female)	1/2" NPT (female)	1/2" NPT (female)
Electrical Requirements	None	None	None	None	None
Dimensions	18.8"l x 2.3"w x 5.4"(7) (48cm x 5.8cm x 13.7cm)	22.1"l x 3"w x 9.4"h(8) (56cm x 7.6cm x 24cm)	27.5"l x 4"w x 9.4"h(8) (70cm x 10cm x 24cm)	28.5"l x 4"w x 12.4"h(5,8) (72cm x 10cm x 31.4cm) 31.5"l x 5.5"w x 12.4"h(6,8) (80cm x 14cm x 31.4cm)	44.5"l x 5.4"w x 12.4"h(8) (113cm x 13.7cm x 31.4cm)
Shipping Weight	4 lbs. (2 kg)	5 lbs. (2 kg)	5 lbs. (2 kg)	5 lbs.(5) (2kg) 10 lbs.(6) (5kg)	10 lbs. (5kg) 18 lbs.(7) (81kg)

Notes:

1 Dewpoint specified for saturated inlet air at 70°F (21°C) and 100 psig (6.9 barg). Outlet flows will vary slightly for other inlet conditions.

2 Inlet compressed air dewpoint must not exceed the ambient air temperature by more than 10°F (5°C).

3 Total Air Consumption = Regeneration Flow + Outlet Flow.

4 If compressed air is extremely contaminated, a Grade DX prefilter should be installed directly upstream from the membrane dryer. Add-DX suffix to Model number.
Example: AD0010-35-DX.

5 Model AD0200-35

6 Model AD0050-40

7 Add 2.2" for DX Assemblies

8 Add 3.5" for DX Assemblies

Ordering Information

For assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time

Membrane Air Dryer		AD0010-35 AD0002-40	AD0030-35 AD0008-40	AD0080-35 AD0020-40	AD0200-35 AD0050-40	AD0400-35 AD0100-40
Membrane Air Dryer For Contaminated Air		AD0010-35-DX AD0002-40-DX	AD0030-35-DX AD0008-40-DX	AD0080-35-DX AD0020-40-DX	AD0200-35-DX AD0050-40-DX	AD0400-35-DX AD0100-40-DX
Replacement Prefilter Cartridges*	Stage 1:	PS403	PS702	PS702	PS802	PS802
	Stage 2:**	4/050-05-DX	4/100-12-DX	4/100-12-DX	4/100-18-DX	4/100-18-DX
	Stage 3:	4/050-05-BX	4/100-12-BX	4/100-12-BX	4/100-18-BX	4/100-18-BX

* To ensure consistent product performance and reliability use only genuine Balston replacement parts and filter cartridges.

** DX Grade for -DX Models only.

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

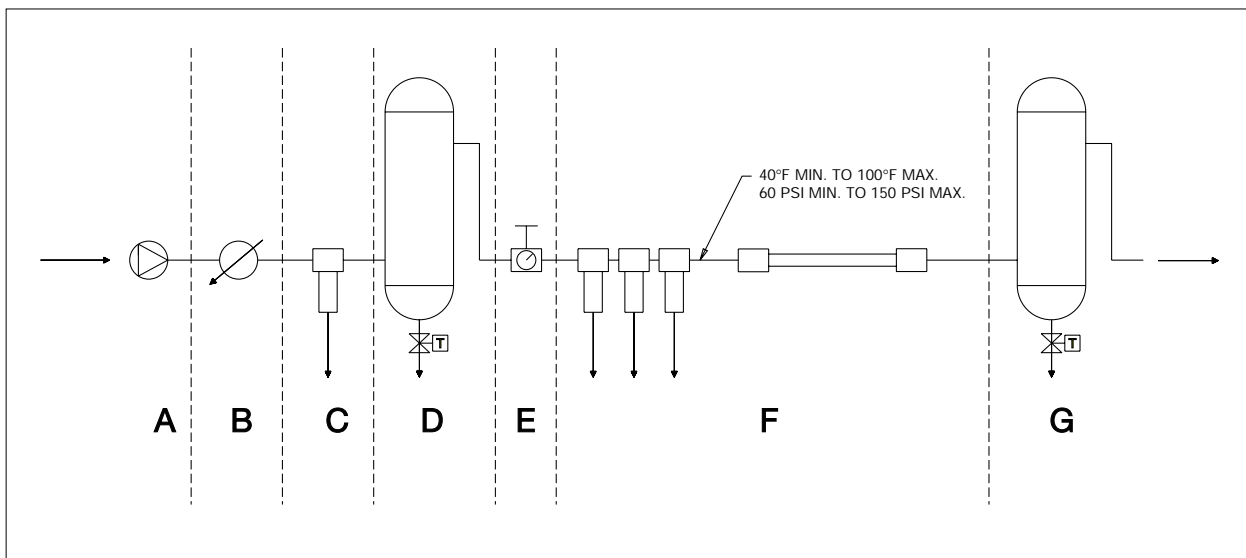
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Membrane Air Dryers Recommended Installation

The compressed air supply pressure should be between 60 psig and 150 psig (4.1 barg and 10.3 barg) for proper operation of the dryer. The compressed air temperature should be no greater than 10°F (6°C) above the ambient temperature and should not exceed 100°F (38°C) for optimal operation of the compressed air dryer. **Do not exceed recommended inlet air temperatures or the performance and life of the module may be adversely affected and the warranty will be void.** If the dryer is located far from the receiver tank (D) or the air supply comes from an elevated air line, a drip leg must be installed directly upstream from the dryer. If the compressed air supply contains excess water and/or oil, install an additional coalescing prefilter (Grade DX) upstream from the compressed air dryer.

Flow control devices should be installed downstream from the dryer, or should be integral to the equipment the dryer is supplying. If the maximum flow rate of the dryer is exceeded, the output air may not meet the published dewpoint specification.

The compressed air dryers maintain a constant "sweep" flow to carry water vapor laden air away from the membrane module. This sweep flow may result in a constant "hiss" of air from the inlet end of the module. The total compressed air consumption of the dryer is the sum of the downstream demand plus the "sweep" flow (see specifications section, page 26). The compressed air supply should be adequately sized to supply this volume.



Recommended Dryer Installation

- A Compressor:** Piston, screw, liquid ring*, or vane compressor. Max pressure at the dryer 150 psig, min 60 psi. Install regulator at E only if the pressure exceeds 150 psi.
- B Aftercooler:** Sized to bring the air temperature below 100°F (38°C).
- C Condensate Separator:** Install the first centrifugal separator in line after the aftercooler. This separator removes excess condensate from the cooling action of the aftercooler. Separators must be equipped with automatic drains.
- D Receiver Tank:** Air line to enter the tank in the lower 1/5th of the vessel, exit at the top 1/5th. For horizontal tanks, enter the side of the tank and exit from the top. Install a timed solenoid drain at base of tank.
- E Pressure Regulator:** Optional. Install only if the line pressure at that point could exceed 150 psig.
- F Dryer System:** with three stages of prefiltration: DX, mechanical separator, BX. The DX grade may be optional in installations far from the compressor. Air flow must be controlled downstream from the dryer to prevent overflow operation.
- G Receiver Tank:** For systems subject to rapid, cyclic air flow. The Receiver Tank attenuates flow surges that could damage the membrane. The receiver tank is not necessary for steady flow applications.

Each drain line should be vented to atmosphere. Do not tie together. Assure that the ambient temperature does not exceed 100°F (38°C).

* In liquid ring compressors, steps should be made to eliminate sources of potential corrosion, such as chlorine from the compressor feedwater. The membrane dryer contains aluminum components which may corrode. *Failure to follow these guidelines will void the warranty.*

Balston® OEM Nitrogen Generators



BALSTON®



A Balston Nitrogen Generator

Features

Supply reliable, efficient and economical nitrogen, on-demand for your customers

Take control of the nitrogen utility and offer it with your equipment

Integrate into your equipment or provide as an independent system

Component or system configuration

Design assistance available

Unlimited nitrogen at your specification

Nitrogen Generation

Parker Hannifin Corporation's OEM approach combines a superior coalescing technology with a proven innovative membrane technology to provide a continuous source of nitrogen. You have a choice of components or systems, both of which are supported with detailed design and performance data that facilitates integration into your product. Volumetric flows cover the range from 10 liters per hour to 5,000 cubic feet per hour. Our predesigned systems offer exceptional performance coupled with a wide array of sizes and configurations to meet your equipment needs.

Applications

Food Industries

- Purging and blanketing
- Packaging/mixed gas
- Preservation
- Color retention
- Processing/mixing
- Product transfer

Chemical Industries

- Batching/mixing
- Explosion prevention
- Oxidation/reaction inhibition
- Product transfer
- Flush lines

Mechanical

- Brazing gas
- Pressure seals
- Transferring/blanketing
- Portable gas generators
- Tire filling

Instrumentation

- Replace air in pneumatic positioning systems
- Padding to prevent contamination

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem

Summary

On-site nitrogen is an value-added expansion of many companies' product lines. The ability to provide a complete solution, including the nitrogen utility, can increase opportunities for new as well as retrofit sales.

Parker Hannifin Corporation offers two choices. We can provide completely assembled systems for immediate resale or we can provide component parts for integration into OEM equipment.

We develop and manufacture all Nitrogen Membrane Systems, which offers the OEM customer the ultimate in design flexibility and product performance.

Assembled Systems

Whether they include a compressor and controls or just the ready-to-connect nitrogen generator, these systems are designed for immediate installation and operation. Some knowledge of the principles and operation is needed, but the engineering is done for you.

Components

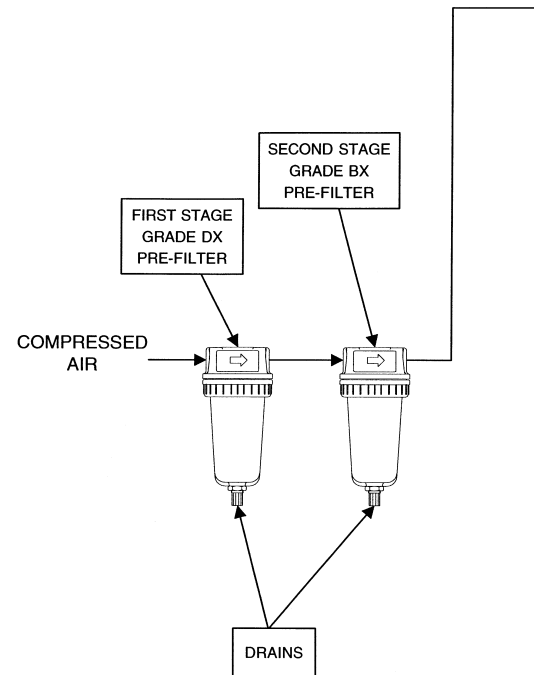
Parker Hannifin Corporation is a leader in both coalescing filtration technology and membrane separation technology. These components are supplied unassembled and ready for incorporation into the OEM system. Parker Hannifin Corporation provides sample design information but allows the OEM to define the final design parameters.

Component Integration

The data section on the back page of this bulletin provides the performance specifications and required inlet compressed air flow for the OEM membrane nitrogen modules available. Design criteria starts with the source of compressed air, its flow, pressure and quality, the desired nitrogen product flow and purity, and the nature of the nitrogen use, i.e., continuous or intermittent.



A broad size and performance range provides OEM design options





Large capacities are provided with multiplexed module systems

Continuous or Intermittent Use

Nitrogen consumption is either constant or intermittent. This demand will determine how the flow of nitrogen is controlled. Peak and average nitrogen flow information is needed to determine which type of system is best for your application.

Sources of compressed air

Plant air: The distribution of compressed air from a central generation point, usually a utility room. The pressure at the generator must be known and the required volume capacity must be available from the plant air system.

Dedicated compressor: A source that is designed to supply compressed air only to the generator. This compressor system may or may not incorporate a storage tank to smooth pressure and flow fluctuations. The air supply volume and pressure produced are matched to the demand of the nitrogen system.

Generator Performance

For a given product flow, the purity of the nitrogen product is higher at higher operating pressures. For optimum energy efficiency, operation at a membrane pressure of 120 psig (150 psig compressor) is recommended. The operating range of the nitrogen membrane modules is 70-175 psig. Performance of the various models is detailed on the data sheets which follow.

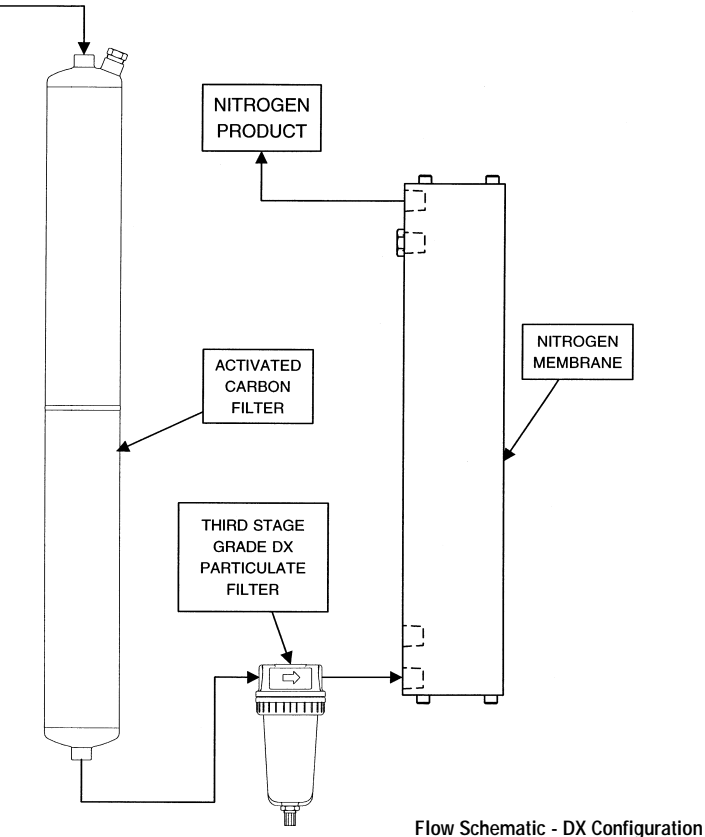
Parker Hannifin Corporation's leadership position in nitrogen generation is available to you. We are your partner in design, supply and as a supporter of your marketing efforts.

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem



Balston OEM Nitrogen Generators

Principal Specifications

OEM Nitrogen Generator

Atmospheric Dewpoint	-20°F to -80°F (-29°C to -62°C)
Particles > 0.01 micron	None
Suspended Liquids	None
Min/Max Operating Pressure (1)	70 psig/175 psig (12 Bar)
Min/Max Pressure Drop (@95% N ₂ , 125 psig)	10psig/30 psig
Recommended Ambient Temperature	≤77°F (25°C)
Min/Max Inlet Air Temperature	40°F/140°F (4°C/60°C)
Recommended Inlet Air Temperature (2)	≤77°F (25°C)
Electrical Requirements	None

Notes

- 1 Dependent on product.
- 2 Inlet air temperature must be less than operating temperature.

Dimensions, Weights, Connections

	AN0005	AN0020	AN0050	AN0100	AN0200	AN0400	AN0500	AN1000	AN2000
Dimensions	2.5" x 15" x 2.5"	2.5" x 31" x 2.5"	6" x 31" x 2.5"	9" x 31" x 2.5"	11" x 31" x 3.5"	11" x 31" x 3.5"	17" x 69" x 8"	17" x 69" x 8"	17" x 69" x 20"
(in cm)	6 x 38 x 6	6 x 79 x 6	15 x 79 x 6	23 x 79 x 6	28 x 79 x 9	28 x 79 x 9	43 x 175 x 20	43 x 179 x 20	43 x 175 x 51
Shipping Wt.	5 lbs(2.3 kg)	10 lbs(4.5kg)	14 lbs(6.3kg)	21 lbs(9.5kg)	36 lbs(16.3kg)	72 lbs(32.7kg)	55 lbs(25.0kg)	60 lbs(27.2kg)	150 lbs(68.1kg)
Connections	1/4" BSPT	1/4" BSPT	1/4" BSPT	1/4" BSPT	1/2" BSPT	1/2" BSPT	1" BSPT	1" BSPT	1" BSPT

OEM Nitrogen Generator Performance at 100 psig and 70°F (SCFH)(3)

Nitrogen Generator	99%	95%	Max. Compressed Air Required SCFH (SCFM)
Model AN0005	1.5	5.5	16 (0.3)
Model AN0020	5	24	70 (1.2)
Model AN0050	16	42	133 (2.3)
Model AN0100	25	84	270 (4.5)
Model AN0200	56	186	575 (10)
Model AN0400	112	372	1190 (20)
Model AN0500	126	360	1190 (20)
Model AN1000	245	786	2380 (40)
Model AN2000	490	1575	5025 (85)

- 3 For performance at 120 psig, multiply rated flow by 1.2 and at 150 psig, multiply by 1.5.

Ordering Information (4) For Assistance, call toll-free at 1-800-343-4048 8AM to 5PM Eastern Time

Nitrogen Generator	Replacement Filter Cartridge	Replacement Filter Cartridge 1st Stage (5)	Activated Carbon Filter (5)	Replacement Filter Cartridge 3rd Stage (5)
Model AN0005	100-12-BX	100-12-DX	C1100-12-000	100-12-DX
Model AN0020	100-12-BX	100-12-DX	C1100-12-000	100-12-DX
Model AN0050	100-12-BX	100-12-DX	C1100-12-000	100-12-DX
Model AN0100	100-12-BX	100-12-DX	C1100-12-000	100-12-DX
Model AN0200	100-18-BX	100-18-DX	75304	100-18-DX
Model AN0400	100-18-BX	100-18-DX	75304	100-18-DX
Model AN0500	100-18-BX	100-18-DX	75304	100-18-DX
Model AN1000	150-19-BX	150-19-DX	75304	150-19-DX
Model AN2000	150-19-BX	150-19-DX	75304	150-19-DX

- 4 Standard nitrogen generator models shipped with Grade BX prefilter and Differential Pressure Indicator (DPI).

- 5 All models available with extra prefiltration. Order Model ANXXXX DX to receive nitrogen generator with Grade DX and BX prefilter, DPI, activated carbon scrubber and Grade DX particulate filter.

*Balston® OEM
Disposable Filter
Solutions*





Balston Disposable Filter Units

Ideal for the following gas filtration applications:

- Final filter for air logic devices
- Protection of pneumatic components
- Filtration of portable environmental sampling devices
- Filtration of samples to on-line analyzers
- Protection of Pneumatic temperature controls

Ideal for the following liquid filtration applications:

- Filtration of liquid with minimum holdup volume
- Filtration of liquid samples to analyzers

Additional applications in the following industries:

- Instrument & Controls
- HVAC
- Dental
- Automotive
- Food Packaging

Parker Hannifin Corporation, the leader in separation and filtration technologies, is pleased to present a brochure designed to help OEM customers choose the best Balston disposable filter product for industrial, commercial, measurement and control applications.

Balston brand disposable filter units (DFU) consist of a microfibre filter cartridge permanently bonded into a sealed plastic holder with 125 psig pressure ratings, temperatures to 275°F, and available in low and high flow models. The economical DFU offers all of the advantages of microfibre filter cartridges for high efficiency liquid and gas filtration, combined with the economics and convenience of complete disposability.

Our years of experience in fitting products to individual applications has led to the creation of a variety of standard products that can be ordered off the shelf for general purpose filtration requirements or can be custom designed for all types of specialty applications.

If you do not see the specific configuration, size or material that you are looking for, our OEM engineering team will be happy to review your requirements and design product to your exact specifications.

If you have questions, or would like to place an order, please call 1-800-343-4048.

This brochure is organized by the size and material of each housing. The ordering specifications show the filter grades available for each type. Refer to pages 41-44 for a complete description of each grade, chemical compatibility, flow rates and installation information.

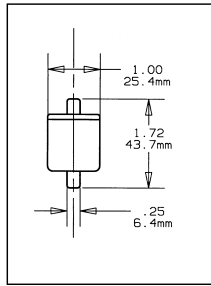
For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem

Miniature General Purpose

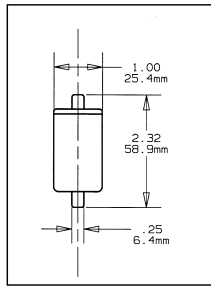


Specifications	
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	230°F (110°C)
Inlet / Outlet Ports:	1/4" Tube
Drain:	None
Housing Material of Construction:	Nylon
Internal Volume:	.004L

Ordering Information	
A9933-03-□	Box of 100 bulkpack
C9933-03-□	Box of 500 bulkpack
Available in Type U and grades A, B, C and D.	
See pages 41-44 for detail of types, grades, application, and installation information.	

Model 9933-03

General Purpose - Minimal Length

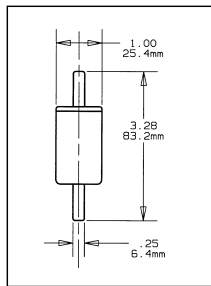


Specifications	
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	230°F (110°C)
Inlet / Outlet Ports:	1/4" Tube
Drain:	None
Housing Material of Construction:	Nylon
Internal Volume:	.01L

Ordering Information	
A9930-05-□	Box of 100 bulkpack
C9930-05-□	Box of 500 bulkpack
Available in Type U and in the following grades: A, B, C, D	
See pages 41-44 for detail of types, grades, application, and installation information.	

Model 9930-05

General Purpose DFU - Low Flow Gas

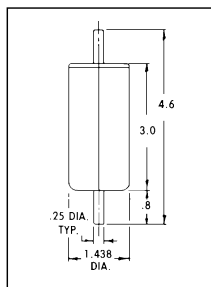


Specifications	
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	230°F (110°C)
Inlet / Outlet Ports:	1/4" Tube
Drain:	None
Housing Material of Construction:	Nylon
Internal Volume:	.01L

Ordering Information	
A9933-05-□	Box of 100 bulkpack
C9933-05-□	Box of 500 bulkpack
Available in Type U and in the following grades: A, B, C, D. Also available with adsorbents 000, 101, 103, 107.	
See pages 41-44 for detail of types, grades, application, and installation information.	

Model 9933-05

General Purpose DFU - Higher Flow

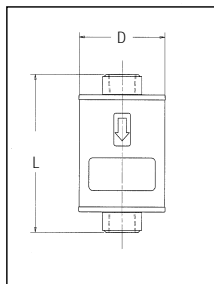


Specifications	
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	230°F (110°C)
Inlet / Outlet Ports:	1/4" Tube
Drain:	None
Housing Material of Construction:	Nylon
Internal Volume:	.02L

Ordering Information	
A9933-11-□	Box of 100 bulkpack
C9933-11-□	Box of 500 bulkpack
Available in Type U and in the following grades: A, B, C, D. Also available with adsorbents 000, 101, 103, 107.	
See pages 41-44 for detail of types, grades, application, and installation information.	

Model 9933-11

General Purpose for Gases - Highest Flow



Specifications

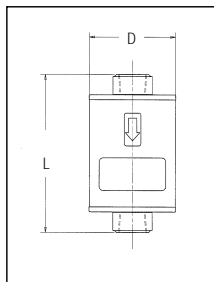
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	125°F (52°C)
Inlet / Outlet Ports:	1/4" FNPT
Drain:	None
Housing Material of Construction:	PolyPropylene
L= Length:	Available 6", 8", 10", 12"
D= Diameter:	2.5"

Ordering Information

A7825-□□-□□□□	Box of 100 bulkpack
C7825-□□-□□□□	Box of 500 bulkpack
Available in Type Q and in the following grades: A, B, C, D. Also available with adsorbents 000, 101, 103, 107. Please consult OEM Technical Support for information on flow rates for these configurations. 3/8" NPT, 3/8" and 1/4" Tube Quick Disconnect are available upon request.	

Model 7825

General Purpose for Liquids - Highest Flow



Specifications

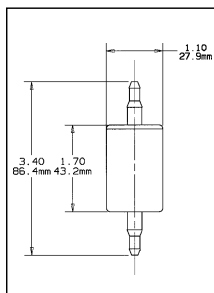
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	125°F (52°C)
Inlet / Outlet Ports:	1/4" FNPT
Drain:	None
Housing Material of Construction:	Polypropylene
L= Length:	Available 6", 8", 10", 12"
D= Diameter:	2.5"

Ordering Information

A7825-□□-□□□□	Box of 100 bulkpack
C7825-□□-□□□□	Box of 500 bulkpack
Available with integral liquid cartridge in grades ranging from 75 micron to .22 micron at 80% efficiency rating. Please consult OEM Technical Support for information on flow rates for these configurations. 3/8" NPT, 3/8" and 1/4" Tube Quick Disconnect are available upon request.	

Model 7825

General Purpose with Integral Barb Fittings



Specifications

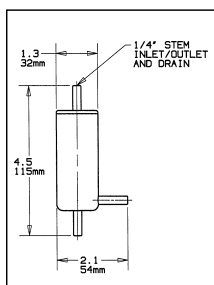
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	230°F (110°C)
Inlet / Outlet Ports:	1st Tier: 1/4" Tube 2nd Tier: 3/8" Tube
Drain:	None
Material of Construction:	Nylon
Internal Volume:	.01L

Ordering Information

A4433-05-□	Box of 100 bulkpack
C4433-05-□	Box of 500 bulkpack
Available in Type U and in grades: A, B, C and D. Also available with adsorbents 000, 101, 103, 107. See pages 41-44 for detail of types, grades, application, and installation information.	

Model 4433-05

General Purpose with Drain Port



Specifications

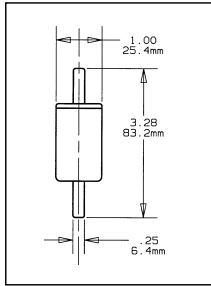
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	230°F (110°C)
Inlet / Outlet Ports:	1/4" Tube
Drain:	1/4" Tube
Housing Material of Construction:	Nylon
Internal Volume:	.02L

Ordering Information

A8833-11-□	Box of 100 bulkpack
C8833-11-□	Box of 500 bulkpack
Available in Types U and X and in the following grades: A, B, C, D, S. Also available with adsorbents 000, 101, 103, 107. See pages 41-44 for detail of types, grades, application, and installation information.	

Model 8833-11

High Chemical Resistance - Low Flow

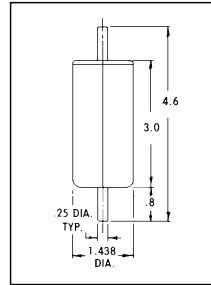


Specifications	
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	275°F (135°C)
Inlet / Outlet Ports:	1/4" Tube
Drain:	None
Housing Material of Construction:	PVDF
Internal Volume:	.01L

Ordering Information	
A9922-05-□	Box of 100 bulkpack
C9922-05-□	Box of 500 bulkpack
Available in Type Q and in the following grades: A, B, C, D. Also available with adsorbents 000, 101, 103, 107.	
See pages 41-44 for detail of types, grades, application, and installation information.	

Model 9922-05

High Chemical Resistance DFU -Higher Flow

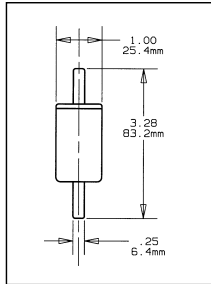


Specifications	
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	275°F (135°C)
Inlet / Outlet Ports:	1/4" Tube
Drain:	None
Housing Material of Construction:	PVDF
Internal Volume:	.02L

Ordering Information	
A9922-11-□	Box of 100 bulkpack
C9922-11-□	Box of 500 bulkpack
Available in Types Q and in the following grades: A, B, C, D	
See pages 41-44 for detail of types, grades, application, and installation information.	

Model 9922-11

Oil Indicating DFU

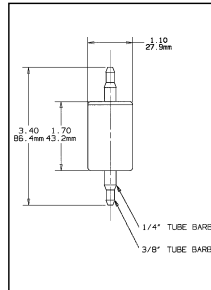


Specifications	
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	230°F (110°C)
Inlet / Outlet Ports:	1/4" Tube
Drain:	None
Housing Material of Construction:	Nylon
Internal Volume:	.01L

Ordering Information	
A9900-05-□	Box of 100 bulkpack
C9900-05-□	Box of 500 bulkpack
Available in Type K and in grade B.	
See pages 41-44 for detail of types, grades, application, and installation information.	

Model 9900-05

General Purpose with Integral Barb Fittings - For Less Critical Applications



Specifications	
Max. Pressure at 110°F:	125 psig
Max. Temp. at 0 psig:	230°F (110°C)
Inlet / Outlet Ports:	1st Tier: 1/4" Tube 2nd Tier: 3/8" Tube
Drain:	None
Material of Construction:	Nylon
Internal Volume:	.01L

Ordering Information	
A4433-05-10P	Box of 100 bulkpack
C4433-05-10P	Box of 500 bulkpack
Retention efficiency of plastic filter element is 100 micron nominal.	

Model 4433-05-10P



Disposable Adsorption Units (DAUs) contain a bed of adsorbent granules. Utilizing a wide choice of adsorbents, the DAUs selectively remove vapors from air and other gases.

Because the adsorbed vapor remains trapped in the solid bed, the DAU has a fixed upper limit of total weight of vapor which can be captured. It is usually not feasible to regenerate the filter when it has reached its adsorption limit. DAUs should be used only when small quantities of vapor are to be removed.

Considerations in Using Adsorbent Cartridges

The following factors should be considered when selecting a DAU:

- 1 Solid adsorbents are effective only for vapors. Since liquids will damage or inactivate most solid adsorbents, the DAU must be preceded by an efficient coalescing filter.
- 2 In contrast with Microfibre Filters, which operate at their initial efficiency throughout their life, adsorbent cartridges have a limited holding capacity. When the adsorption capacity is reached, no further adsorption occurs. The limiting capacity, or "breakthrough" point, is not sharply defined, and the exit vapor concentration will increase rapidly as saturation is approached. To avoid unwanted vapor contaminants downstream, it is necessary to change the adsorbent cartridge well before it has reached its ultimate adsorption capacity.
- 3 Adsorption is reversible, if operating conditions change, a vapor may desorb rather than adsorb. For example, if a temporary surge in vapor impurity concentration causes a relatively high concentration to be adsorbed on the solid, a subsequent decrease in inlet vapor composition will result in desorption of vapor from the solid to the gas stream.
- 4 The efficiency of a given adsorbent for a given vapor depends upon the specific operating conditions. Therefore, again in contrast to filtration, it is not possible to assign a single efficiency rating to an adsorbent. While it is not possible to predict or guarantee an adsorption efficiency for any specific set of conditions, it is possible to enhance the conditions beneficial to adsorption and avoid conditions which interfere with adsorption. Conditions which aid adsorption are: low temperature, high pressure, low flow rate, and absence of competing vapors (particularly water vapor).

Adsorbent	Grade	Use For
Carbon	000	Compressor oil vapors, C ₅ and heavier hydrocarbons, aromatics, oxygenated hydrocarbons, chlorinated organics, freons, carbon disulfide.
Silica Gel	101	Recommended only for water vapor.
Molecular Sieve Type 13X	103	Most C ₄ and lighter hydrocarbons, ethylene, propylene, acetylene, ethylene oxide, ammonia, mercaptans, sulfur hexafluoride, triethylamine, and smaller amines.
Mixed Sodium & Calcium Hydroxides	107	All acidic gases, including sulfur trioxide, sulfur dioxide, nitrogen dioxide, carbon dioxide, hydrogen sulfide, hydrogen chloride, phosphorus trichloride, boron trifluoride.

Notes:

- 1 Please refer to Ordering Information for complete explanation of nomenclature.
- 2 In DAU 9933-05-107 and DAU 9933-11-107, color indicator turns violet when adsorbent is spent.
- 3 In DAU 9933-05-101 and 9933-11-101, adsorbent turns pink when vapor capacity is reached.
- 4 Maximum operating temperature is 180°F.

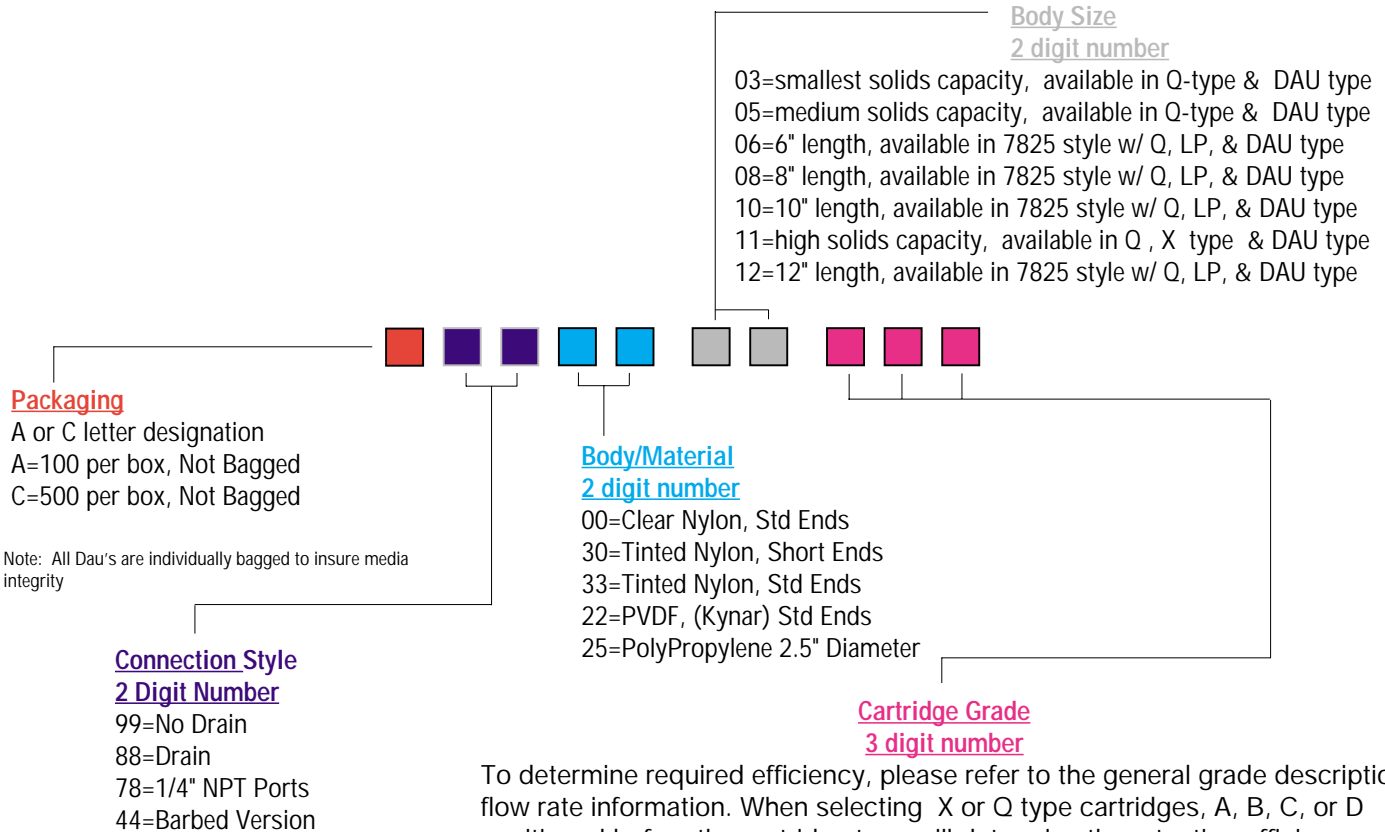
For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem

The Chart below illustrates how to configure the DFU part number when ordering.



To determine required efficiency, please refer to the general grade description flow rate information. When selecting X or Q type cartridges, A, B, C, or D positioned before the cartridge type will determine the retention efficiency. When selecting cartridge type, do not overspecify. Select the coarsest grade which is adequate for the application. Coarser Grade filters provide lower pressure drop and longer life than finer filters. When selecting DAU grades refer to the chart on page 5 to determine the adsorbent appropriate for the application.

Specify your part number with the above guidelines. Please refer to pages 38-40 to confirm the grades, sizes and materials available in each housing type.

Custom configurations, Private labelling available-Please Ask for a quote!! We will happily engineer product to your specific requirements

Call 800-343-4048 to place your order.

We would be pleased to answer all of your technical questions. Our technical staff is available from 8am-5pm Eastern Time.

For additional information
 call toll-free 1-800-343-4048
 or fax 1-978-858-0625
 or visit our website at: www.parker.com/oem

Balston® OEM Disposable Filter Solutions Technical Specifications

Filtration Efficiency

The Balston® Microfibre® Disposable Filter Unit (DFU) may be used to filter liquids or gases; therefore, each DFU has two retention ratings. Liquid ratings are defined as 98% retention of the stated particle size; gas ratings are defined as percentage retention of 0.01 micron particles.

Retention Efficiency Grade	Gas Efficiency (at .01µm)	Liquid Efficiency (98% retention)
DQ,DX, DU	93%	25 µm
CQ, CU	98%	8 µm
BQ,BK,BX, BU	99.99%	2 µm
AQ	99.9999+%	0.9 µm

Note: Consult OEM Technical Support for information on flow rates for 8", 10", and 12" lengths.

Pressure Drop Specification	Models 8822-11, 9922-05, 9922-11	Models 9900-05, 4433-05 8833-11, 9933-05, 9933-11, 7825
Max. ΔP:		
Gases		
• Flow per arrow	80 psid	50 psid
• Flow opposite arrow	20 psid	20 psid
Liquids		
• Flow per arrow	50 psid	50 psid
• Flow opposite arrow	20 psid	20 psid

DFU Type	Air Flow at 2 psi drop, standard cu. ft. per min. (SCFM) at indicated line pressure						
	2 psig	20 psig	40 psig	60 psig	80 psig	100 psig	125 psig
8833-11-DX, DU	1.8	3.6	5.8	8.0	10.0	12.0	14.6
9922-11-DQ							
9933-11-DU							
8833-11-BX, BU	0.9	1.8	2.9	4.0	5.0	6.0	7.3
9922-11-BQ							
9933-11-BU							
9933-05-DU	1.2	2.5	3.9	5.4	6.8	8.3	10.1
9922-05-DQ							
4433-05-DU							
4433-05-10P							
9933-05-BU	0.8	1.6	2.6	3.6	4.4	5.4	6.6
9922-05-BQ							
9900-05-BK							
9933-03-DU	0.6	1.25	1.9	2.7	3.4	4.1	5.1
9933-03-BU	0.4	0.8	1.3	1.8	2.2	2.7	3.3
9933-11-DAU	0.7	1.7	2.5	3.7	4.3	5.0	5.7
9922-11-DAU							
9933-05-DAU	0.5	1.2	1.9	2.6	3.3	4.0	4.7
9922-05-DAU							
4433-05-DAU							
8833-11-AQ	0.45	0.9	1.8	2.0	2.5	3.0	3.8
9922-11-AQ							
9933-05-AQ	0.4	0.8	1.3	1.8	2.2	2.7	3.3
9922-05-AQ							
7825-06-BQ	3.5	7.1	10.4	13.0	16.25	17.55	20.1
7825-06-DQ	5.0	11.0	16.0	20.0	25.0	27.0	31.0
7825-06-DAU	3.5	7.25	10.3	13.0	15.5	17.3	19.5

Chemical Compatibility, Models 9922-05, 9922-11 Polyvinylidene fluoride (PVDF), opaque



Suitable: Water (to 200°F/135°C); concentrated nitric, sulfuric, and hydrochloric acids; chlorine (gas or liquid); sodium hypochlorite; ethylene oxide (gas or liquid); Freons; hydrogen peroxide (all concentrations); bromine (dry and aqueous solutions); all chlorinated solvents except methylene chloride; all aromatic and aliphatic solvents; all alcohols and glycols; aniline; phenol; ammonia (gas, liquid, or aqueous).

Limited Use: Acetone MEK, Dioxane, furfural, methylene chloride.

Unsuitable: THF, DMF, ethylene diamine, chlorosulfonic acid, ethanolamine, pyridine, sulfur trioxide.

Chemical Compatibility, Models 9900-05, 8833-11, 9933-05, 9933-11, 4433-05 - Nylon, clear

Suitable: Water (to 158°F/70°C); benzene, toluene, other aromatic hydrocarbons; hydrocarbon solvents and fuels; perchloroethylene; trichloroethylene; nitric acid (to 10%); sulfuric acid (to 40%); hydrochloric acid (to 10%); most salt solutions; sodium and potassium hydroxide (to 50%).

Limited Use: Water at 176°F (80°C); acetone; MEK; acetaldehyde; ammonia (to 25%).

Unsuitable: Water (above 194°F/90°C), alcohols, glycols, phenol, aniline, DMF, concentrated acids, chlorine.

General Description

K Type Filter: Designed with integral dye to indicate presence of oil. Polyolifin binder with borosilicate glass fibers. Available in style 9900-05.

LP Filter: Designed to filter liquids with high solids contents. Have an integral prefilter and an external support structure (flow direction is inside to outside). Available in style 7825 only. Polyolifin binder with glass borosilicate fibers.

X-Type Filter: Used for solids and relatively large amounts of suspended liquids in gases. Provide excellent chemical resistance, temperature resistance to 300°F and good mechanical handling properties. These cartridges have thick walls for coalescing efficiency. Fluorocarbon Resin Binder available in style 8833-11 DFU's.

P-Type Filter: Used for less critical applications. 100 Micron nominal rated plastic filter element. Available in style 4433-05 only.

Q-Type Filter: Used for solids and trace amounts of liquids in gases. Similar to X-type cartridges in chemical and temperature resistance. Fluorocarbon Resin Binder. Available in 9922-05, 9922-11 styles.

U Type Filter: Used for solids and trace amounts of liquids in gases. Specifically designed to have same chemical and temperature resistance as nylon, plastic housings. Polyolifin binders with borosilicate glass fiber that produces pure white filter media. Available in styles 4433-05, 9933-05, 9933-11.

DAU Grades: Please see page 41 for complete description.

Recommended Grade:

Gas Filtration		Liquid Filtration (select particle and size retention)	
Grade DQ,DX	General Purpose	Grade DQ,DX	General Purpose
Grade BQ,BK,	Complete oil and/or water droplet removal Note: Grade BK contains a visual oil indicator which turns a portion of the surface of the cartridge pink when saturated with oil.	Grade CQ	Removes almost all visible particles
		Grade BQ,BX	Removes all visible particles and most colloidal haze
		Grade AQ	All submicron particles
Grade AQ	Commercially sterile	Grade AAQ	All submicron particles

Installation Instructions

Primary flow should be in the direction of the arrow (inside-to-outside of the filter cartridge). Moderate reverse flow can be tolerated without damage, as in a vent or breather application. Slip-on tubing (1/4" ID) may be used for low pressure applications. For high pressure applications, compression tubing fittings recommended by the manufacturers for use with 1/4" OD plastic tubing are satisfactory to 125 psig. Consult OEM Technical Support for information on Parker Hannifin tube fittings, regulators, valves etc. (Call Parker at 1-800-343-4048, 8AM to 5PM EasternTime.)

For connections to pressure pipe or tubing		or connections to low pressure plastic tubing	
Compression fittings for 1/4" O.D. tubing may be obtained from Parker-Hannifin Corp.		Tubing with 1/4" ID may be slipped over the DFU end fittings and held with tubing clamps. Plastic barbs are available to connect the DFU to smaller diameter plastic tubing. The connection is suitable for pressures to 50 psig.	
The following brass fittings seal by o-ring compression and may be completely recovered and reused when changing filters. They may be purchased from Parker Hannifin Corporation.		DFU to 1/16" ID tubing P/N 14000 (bag of 20 barbs)	
Connector	1/4" tubing to 1/4" NPT, female - P/N 11970	DFU to 1/8" ID tubing P/N 14001 (bag of 20 barbs)	
Connector	1/4" tubing to 1/4" tubing - P/N 11971	Parker offers a manual drain valve for removal of coalesced liquids from the Type 8833-11-DX.	
Elbow	1/4" tubing to 1/8" NPT female (for manual drain on Type 8833-11) - P/N 11972	Drain Valve	1/8" NPT (male) x 1/8" ID tubing (Requires elbow part 11972) P/N 20125

Notes:
1 DFU 9933-05-AQ (or others with Nylon housings) may be sterilized with ethylene oxide or by autoclaving to 230°F. For autoclaving to 275°F, use DFU 9922-05-AQ (or others with PVDF housings).

For additional information

call toll-free 1-800-343-4048

or fax 1-978-858-0625

or visit our website at: www.parker.com/oem



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 To be a leading worldwide manufacturer of components and systems for the builders and users of durable goods. More specifically, we will design, market and manufacture products controlling motion, flow and pressure. We will achieve profitable growth through premier customer service.

Product Information
 North American customers seeking product information for Balston products, the location of local sales offices or repair services will receive prompt attention by calling the Filtration and Separation Division at our toll-free number: 1-800-343-4048. For all other product information call 1-800-C-PARKER (1-800-272-7537).

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