

Parker Balston Disposable Filter and Adsorption Solutions

Selection Guide



Parker Balston Disposable Filter and Adsorption Solutions

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Balston Disposable Filter Units

Choosing the best disposable filter product for industrial, commercial, measurement and control applications.

This brochure is 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 microfiber 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 microfiber 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, our customer care specialists are ready to assist you. please call 1-800-343-4048.

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



Balston disposable filter units consist of a microfiber filter cartridge permanently bonded into a sealed plastic holder with 125 psig pressure ratings, temperatures to 275°F, and are available in low and high flow models



DFU Element and Housing Material Selection Instructions

We supply filter elements in five different designs: X, Q, K, P, 95. See description chart (right).

How to select an element

- 1 When selecting a filter element, do not overspecify. Select the coarsest grade that will adequately protect the instrument. Coarser grade filters provide lower pressure drop and longer life than finer grades.
- 2 When selecting X or Q type elements, a D, B, C positioned before the cartridge type will determine the retention efficiency. See Retention Efficiency chart (p. 5) Refer to the chemical compatibility chart (p. 5) to confirm compatibility of the filter element material with the sample composition.

How to select a housing

- 1 Select a filter housing in the material chemically compatible with your application. Refer to the Chemical Compatibility chart (p. 5).
- 2 Determine the gas or liquid flow rate and pressure at the point where the filter will be located. Refer to flow information listed under each filter.

X type elements

For removal of solids and large amounts of suspended liquids in gases
Feature thick walls for improved coalescing efficiency
Provide excellent chemical resistance
Temperature resistance to 300°F (150°C)
Use whenever permitted by housing internal volume
Fluorocarbon resin binder available in model 8833-11.

Use whenever permitted by housing internal volume

Q type elements

For removal of solids and trace amounts of liquids in gases
Ideal for liquid service and particulate removal.
Similar to X type elements in chemical and temperature resistance
Available in models 9922-05, 9922-11.
Fluorocarbon resin binder.

K type elements

Designed with integral dye to indicate the presence of oil.
Polyolifin binder with borosilicate glass fibers.
Available in model 9900-05.

P type elements

For less critical applications.
100 micron nominal rated plastic filter element.
Available in model 4433-05.

95 type elements

Membrane style element for critical high-purity gases.

DFU Element Retention Efficiency and Chemical Compatibility

| Retention efficiency for gas filtration | |
|---|---------------------------|
| Grade | Gas Filtration Efficiency |
| DX | 93% at 0.01μ |
| DQ | 93% at 0.01μ |
| BX | 99.99% at 0.01μ |
| BQ | 99.99% at 0.01μ |
| AQ | 99.9999+% at 0.01μ |
| AAQ | 99.99999+% at 0.01μ |
| 95 | 99.999999% at 0.01μ |

| Retention efficiency for liquid filtration | |
|--|------------------------------|
| Grade | Liquid Filtration Efficiency |
| DQ | 98% at 25μ |
| BQ | 98% at 2μ |
| AQ | 98% at .9μ |
| AAQ | 98% at .3μ |

Chemical compatibility

Models: 9922-05, 9922-11

Suitable: Water or steam to 200°F (135°C); concentrated nitric, sulfuric, and hydrochloric acids; chlorine (gas or liquid); sodium hypochlorite, ethylene oxide (gas or liquid); Freons; ammonia (gas, liquid, or aqueous solutions); 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.

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

Unsuitable: Water above 200°F (135°C), THF, DMF, ethylene diamine, chlorosulfonic acid, ethanolamine, pyridine, sulfur trioxide.

Chemical compatibility

Models 9933-03, 9933-05, 9933-11, 9930-05, 7825, 4433-05, 8833-11, 9900-05, 8800-12, 9953-11

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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

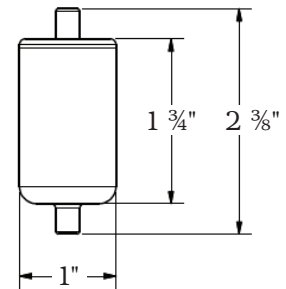
Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 9930-05 DFU Minimal Length

Technical Information

- 1/4" Inlet/Outlet Ports
- 10 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.0"D x 2.34"L (2.5 cm x 5.9 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|--------------------|-------------------|
| 9930-05-(.) | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

| Gas Flow Rates | | | Flow Rates, SCFM/NM ³ /h at 2 PSI Drop at Indicated Line Pressure | | | | | | | |
|----------------|------------------------|--------------|--|---------|---------|---------|---------|----------|----------|-----------|
| Model | Volume of Housing (ml) | Filter Grade | Flow Rate, CFM at 10" Water Pressure Drop, 0 psig | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 9930-05 | 11.33 | DQ | 0.2 | 1.2/2.0 | 2.5/4.2 | 3.9/6.6 | 5.4/9.2 | 6.8/11.6 | 8.3/14.1 | 10.1/17.2 |
| | | BQ | 0.1 | 0.8/1.4 | 1.6/2.7 | 2.6/4.4 | 3.6/6.1 | 4.4/7.5 | 5.4/9.2 | 6.6/11.2 |
| | | AQ | | 0.4/0.7 | 0.8/1.4 | 1.3/2.2 | 1.8/3.1 | 2.2/3.7 | 2.7/4.6 | 3.3/5.6 |

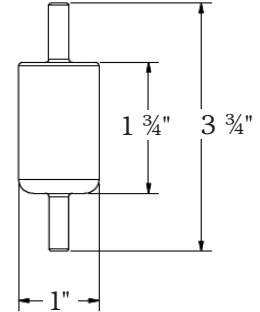
| Liquid Flow Rates | | | Water Flow Rates (gallons/hr) at Initial Pressure Drop | | |
|-------------------|---------------------------|--------|--|-----------------|-----|
| Model | Volume of Housing Gallons | Liters | 1 PSI (0.07 bar) | 5PSI (0.34 bar) | |
| 9903-05 | 0.003 | 0.01 | DQ | 12 | 30 |
| | | | BQ | 3 | 15 |
| | | | AQ | 1.5 | 7.3 |
| | | | AAQ | 0.4 | 1.9 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 9933-05 Low Flow DFU

Technical Information

- 1/4" Inlet/Outlet Ports
- 1 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.0"D x 3.25"L (2.5 cm x 8 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|--------------------|-------------------|
| 9933-05-() | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

| Gas Flow Rates | | | Flow Rates, SCFM/NM ³ /h | | | | | | | |
|----------------|------------------------|--------------|---|--|---------|---------|---------|----------|----------|-----------|
| Model | Volume of Housing (ml) | Filter Grade | Flow Rate, CFM at 10" Water Pressure Drop, 0 psig | Flow Rates, SCFM/NM ³ /h at 2 PSI Drop at Indicated Line Pressure | | | | | | |
| | | | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 9933-05 | 11.33 | DQ | 0.2 | 1.2/2.0 | 2.5/4.2 | 3.9/6.6 | 5.4/9.2 | 6.8/11.6 | 8.3/14.1 | 10.1/17.2 |
| | | BQ | 0.1 | 0.8/1.4 | 1.6/2.7 | 2.6/4.4 | 3.6/6.1 | 4.4/7.5 | 5.4/9.2 | 6.6/11.2 |
| | | AQ | | 0.4/0.7 | 0.8/1.4 | 1.3/2.2 | 1.8/3.1 | 2.2/3.7 | 2.7/4.6 | 3.3/5.6 |

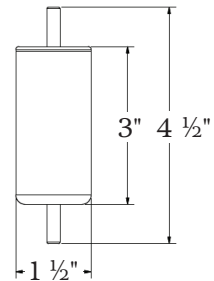
| Liquid Flow Rates | | | | Water Flow Rates (gallons/hr) at Initial Pressure Drop | |
|-------------------|---------------------------|--------------|--|--|-----------------|
| Model | Volume of Housing Gallons | Filter Grade | Water Flow Rates (gallons/hr) at Initial Pressure Drop | 1 PSI (0.07 bar) | 5PSI (0.34 bar) |
| 9933-05 | 0.003 | DQ | 12 | | 30 |
| | | BQ | 3 | | 15 |
| | | AQ | 1.5 | | 7.3 |
| | | AAQ | 0.4 | | 1.9 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 9933-11 Higher Flow DFU

Technical Information

- 1/4" Inlet/Outlet Ports
- 20 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.4"D x 4.6"L (3.6 cm x 12 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|--------------------|-------------------|
| 9933-11-() | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

| Gas Flow Rates | | Filter Grade | Flow Rate, CFM at 10" Water Pressure Drop, 0 psig | Flow Rates, SCFM/NM ³ /h at 2 PSI Drop at Indicated Line Pressure | | | | | | |
|----------------|------------------------|--------------|---|--|---------|---------|----------|---------|-----------|-----------|
| Model | Volume of Housing (ml) | | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 9933-11 | 19.82 | DQ | 0.4 | 1.8/3.1 | 3.6/6.1 | 5.8/9.9 | 8.0/13.6 | 10/17.0 | 12.0/20.4 | 14.6/24.8 |
| | | BQ | 0.2 | 0.9/1.5 | 1.8/3.1 | 2.9/4.9 | 4.0/6.8 | 5.0/8.5 | 6.0/10.2 | 7.3/12.4 |

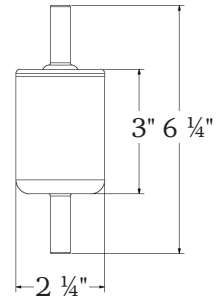
| Liquid Flow Rates | | Filter Grade | Water Flow Rates (gallons/hr) at Initial Pressure Drop | |
|-------------------|--|--------------|--|-----------------|
| Model | Volume of Housing Gallons Liters | | 1 PSI (0.07 bar) | 5PSI (0.34 bar) |
| 9933-11 | 1005 0.02 | DQ | 18 | 45 |
| | | BQ | 5 | 26 |
| | | AQ | 2.5 | 12 |
| | | AAQ | 0.6 | 3.1 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 8800-12 Large Capacity High Flow DFU

Technical Information

- 1/2" Inlet/Outlet Ports
- 138 mL Internal Volume
- 150°F (67°C) Maximum Temperature at 0 psig
- 50 psig (3.4 barg) at 110°F (43°C)
- Body Material: Nylon
- 2.24"D x 6.24"L (5.69 cm x 15.85 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|--------------------|-------------------|
| 8800-12-(L) | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

| Gas Flow Rates | | | Flow Rate, CFM | Flow Rates, SCFM/NM ³ /h | | |
|----------------|------------------------|--------------|------------------------------------|--|---------|---------|
| Model | Volume of Housing (ml) | Filter Grade | at 10" Water Pressure Drop, 0 psig | at 2 PSI Drop at Indicated Line Pressure | | |
| | | | | 2 psig | 20 psig | 40 psig |
| 8800-12 | 93.45 | DQ | 2.6 | 10/.69 | 22/1.51 | 35/2.4 |
| | | BQ | .45 | 2/.14 | 6/.41 | 9/.62 |

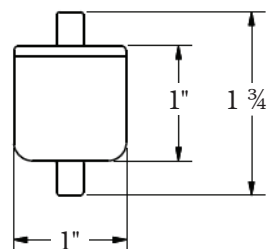
| Liquid Flow Rates | | | Water Flow Rates (gallons/hr) at Initial Pressure Drop | | |
|-------------------|---------------------------|--------------|--|-----|-----|
| Model | Volume of Housing Gallons | Filter Grade | 1 PSI (0.07 bar) 5PSI (0.34 bar) | | |
| | Liters | | | | |
| 8800-12 | 0.04 | 0.14 | DQ | 54 | 129 |
| | | | BQ | 13 | 56 |
| | | | AQ | 6 | 26 |
| | | | AAQ | 1.4 | 6.5 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 9933-03 Compact DFU

Technical Information

- 1/4" Inlet/Outlet Ports
- 4 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.0"D x 1.72"L (2.5 cm x 4.4 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|--------------------|-------------------|
| 9933-05-() | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

| Gas Flow Rates | | | Flow Rate, CFM | Flow Rates, SCFM/NM ³ /h | | | | | | |
|----------------|------------------------|--------------|------------------------------------|--|----------|---------|---------|---------|----------|----------|
| Model | Volume of Housing (ml) | Filter Grade | at 10" Water Pressure Drop, 0 psig | at 2 PSI Drop at Indicated Line Pressure | | | | | | |
| | | | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 9933-03 | 4.0 | DQ | 0.2 | 0.6/1.0 | 1.25/2.1 | 1.9/3.2 | 2.7/4.6 | 3.4/5.8 | 4.1/7.0 | 5.1/8.7 |
| | 4.0 | BQ | 0.1 | 0.4/0.7 | 0.8/1.4 | 1.3/2.2 | 1.8/3.1 | 2.2/3.7 | 2.7/4.6 | 3.3/5.6 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 9900-05 Oil Indicating DFU

This filter is used to detect any oil carryover from the upstream flow. This unit has an oil soluble indicating dye inside the element that turns the element red if any oil enters the housing.

Technical Information

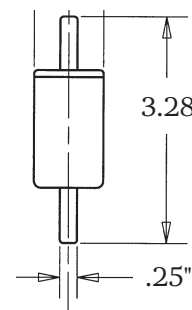
- 1/4" Inlet/Outlet Ports
- 1 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.0"D x 3.25"L (2.5 cm x 8 cm)

Chemical compatibility

Suitable: Compressed air, inert gases 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: 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water and/or temperatures above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.



Ordering Information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|-----------------|-------------------|
| 9900-05-(L) | BK | 99.99% at 0.01μ | N/A |

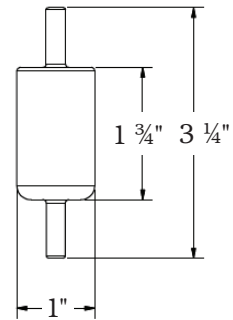
| Gas Flow Rates | | | Flow Rates, SCFM/NM ³ /h | | | | | | | | |
|----------------|------------------------|--------------|--|--|---------|---------|---------|---------|----------|----------|--|
| Model | Volume of Housing (ml) | Filter Grade | Flow Rates, CFM at 10" Water Pressure Drop, 0 psig | Flow Rates, SCFM/NM ³ /h at 2 PSI Drop at Indicated Line Pressure | | | | | | | |
| | | | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig | |
| 9900-05 | 11.33 | BK | 0.1 | 0.8/1.4 | 1.6/2.7 | 2.6/4.4 | 3.6/6.1 | 4.4/7.5 | 5.4/9.2 | 6.6/11.2 | |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 9922-05 High Chemical Resistance, Low Flow DFU

Technical Information

- 1/4" Inlet/Outlet Ports
- 11 mL Internal Volume
- 275°F (135°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: PVDF
- 1.0"D x 3.25"L (2.5 cm x 8 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and water or steam to 200°F (135°C); concentrated nitric, sulfuric, hydrochloric acids; chlorine (gas or liquid); sodium hypochlorite, ethylene oxide (gas or liquid); Freons; ammonia (gas, liquid, or aqueous solutions); 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.

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

Unsuitable: Water above 200°F (135°C), THF, DMF, ethylene diamine, chlorosulfonic acid, ethanolamine, pyridine, sulfur trioxide.

Ordering Information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|--------------------|-------------------|
| 9922-05-() | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

| Model | Volume of Housing (ml) | Filter Grade | Flow Rates, CFM at 10" Water Pressure Drop, 0 psig | | Flow Rates, SCFM/NM ³ /h at 2 PSI Drop at Indicated Line Pressure | | | | | | |
|---------|------------------------|--------------|--|-----|--|---------|---------|---------|----------|----------|-----------|
| | | | 0.2 | 0.1 | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 9922-05 | 11.33 | DQ | 0.2 | | 1.2/2.0 | 2.5/4.2 | 3.9/6.6 | 5.4/9.2 | 6.8/11.6 | 8.3/14.1 | 10.1/17.2 |
| | | BQ | 0.1 | | 0.8 | 1.6 | 2.6 | 3.5 | 4.5 | 5.4 | 6.6 |
| | | AQ | | | 0.4 | 0.8 | 1.3 | 1.8 | 2.2 | 2.7 | 3.3 |

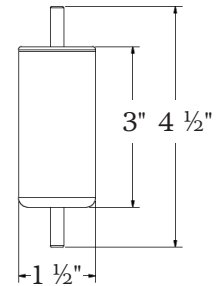
| Model | Volume of Housing | | Filter Grade | Water Flow Rates (gallons/hr) at Initial Pressure Drop | |
|---------|-------------------|--------|--------------|--|-----------------|
| | Gallons | Liters | | 1 PSI (0.07 bar) | 5PSI (0.34 bar) |
| 9922-05 | 0.003 | 0.01 | DQ | 12 | 30 |
| | | | BQ | 3 | 15 |
| | | | AQ | 1.5 | 7.3 |
| | | | AAQ | 0.4 | 1.9 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 9922-11 High Chemical Resistance, Higher Flow DFU

Technical Information

- 1/4" Inlet/Outlet Ports
- 20 mL Internal Volume
- 275°F (135°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: PVDF
- 1.4"D x 4.6"L (3.6 cm x 12 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and water or steam to 200°F (135°C); concentrated nitric, sulfuric, hydrochloric acids; chlorine (gas or liquid); sodium hypochlorite, ethylene oxide (gas or liquid); Freons; ammonia (gas, liquid, or aqueous solutions); 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.

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

Unsuitable: Water above 200°F (135°C), THF, DMF, ethylene diamine, chlorosulfonic acid, ethanolamine, pyridine, sulfur trioxide.

Ordering Information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|--------------------|-------------------|
| 9922-11-(L) | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

| Gas Flow Rates | | Filter Grade | Flow Rates, CFM at 10" Water Pressure Drop, 0 psig | | Flow Rates, SCFM/NM ³ /h at 2 PSI Drop at Indicated Line Pressure | | | | | |
|----------------|------------------------|--------------|--|----------|--|---------|----------|-----------|-----------|-----------|
| Model | Volume of Housing (ml) | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig | |
| 9922-11 | 19.82 | DQ | 0.4 | 1.8/3.1 | 3.6/6.1 | 5.8/9.9 | 8.0/13.6 | 10.0/17.0 | 12.0/20.4 | 14.6/24.8 |
| | | BQ | 0.2 | 0.9/1.5 | 1.8/3.1 | 2.9/4.9 | 4.0/6.8 | 5.0/8.5 | 6.0/10.2 | 7.3/12.4 |
| | | AQ | | 0.45/0.8 | 0.9/1.5 | 1.8/3.1 | 2.0/3.4 | 2.5/4.2 | 3.0/5.1 | 3.8/6.5 |

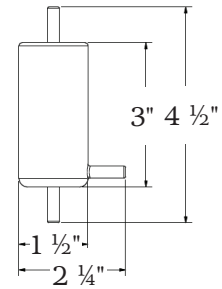
| Liquid Flow Rates | | | Filter Grade | Water Flow Rates (gallons/hr) at Initial Pressure Drop | |
|-------------------|---------------------------|--------|--------------|--|-----------------|
| Model | Volume of Housing Gallons | Liters | | 1 PSI (0.07 bar) | 5PSI (0.34 bar) |
| 9922-11 | 0.003 | 0.01 | DQ | 18 | 45 |
| | | | BQ | 5 | 26 |
| | | | AQ | 2.5 | 12 |
| | | | AAQ | 0.6 | 3.1 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 8833-11 DFU with Drain Port

Technical Information

- 1/4" Inlet/Outlet Ports, Drain 1/4"
- 20 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.4"D x 4.6"L (3.6 cm x 12 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering Information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|----------|-------|-----------------|-------------------|
| 8833-(L) | DX | 93% at 0.01μ | 98% at 25μ |
| | BX | 99.99% at 0.01μ | 98% at 2μ |

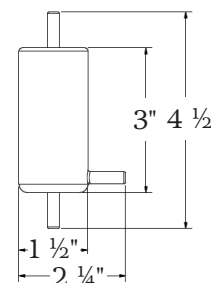
| Gas Flow Rates | | Filter Grade | Flow Rates, CFM at 10" Water Pressure Drop, 0 psig | Flow Rates, SCFM/NM ³ /h at 2 PSI Drop at Indicated Line Pressure | | | | | | |
|----------------|------------------------|--------------|--|--|---------|---------|----------|-----------|-----------|-----------|
| Model | Volume of Housing (ml) | | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 8833-11 | 19.82 | DX | 0.4 | 1.8/3.1 | 3.6/6.1 | 5.8/9.9 | 8.0/13.6 | 10.0/17.0 | 12.0/20.4 | 14.6/24.8 |
| | | BX | 0.2 | 0.9/1.5 | 1.8/3.1 | 2.9/4.9 | 4.0/6.8 | 5.0/8.5 | 6.0/10.2 | 7.3/12.4 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 8822-11 High Chemical Resistance DFU with Drain Port

Technical Information

- 1/4" Inlet/Outlet Ports, Drain 1/4"
- 20 mL Internal Volume
- 275°F (135°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: PVDF
- 1.4"D x 4.6"L (3.6 cm x 12 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and water or steam to 200°F (135°C); concentrated nitric, sulfuric, hydrochloric acids; chlorine (gas or liquid); sodium hypochlorite, ethylene oxide (gas or liquid); Freons; ammonia (gas, liquid, or aqueous solutions); 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.

Limited Use: Acetone, MEK, dioxane, furfural, methylene chloride

Unsuitable: Water above 200°F (135°C), THF, DMF, ethylene diamine, chlorosulfonic acid, ethanolamine, pyridine, sulfur trioxide

Ordering Information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|----------|-------|-----------------|-------------------|
| 8822-() | DX | 93% at 0.01μ | 98% at 25μ |
| | BX | 99.99% at 0.01μ | 98% at 2μ |

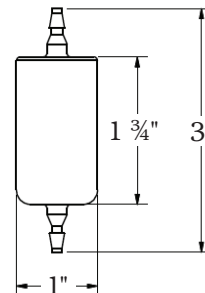
| Gas Flow Rates | | | Flow Rates, CFM | | Flow Rates, SCFM/NM ³ /h | | | | | |
|----------------|------------------------|--------------|------------------------------------|--|-------------------------------------|---------|----------|-----------|-----------|-----------|
| Model | Volume of Housing (ml) | Filter Grade | at 10" Water Pressure Drop, 0 psig | at 2 PSI Drop at Indicated Line Pressure | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 8822-11 | 19.82 | DX | 0.4 | 1.8/3.1 | 3.6/6.1 | 5.8/9.9 | 8.0/13.6 | 10.0/17.0 | 12.0/20.4 | 14.6/24.8 |
| | | BX | 0.2 | 0.9/1.5 | 1.8/3.1 | 2.9/4.9 | 4.0/6.8 | 5.0/8.5 | 6.0/10.2 | 7.3/12.4 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 4433-14 DFU with 1/8" barbed Inlet/Outlet Port

Technical Information

- Barbed connections for 1/8" ID Tubing
- 11 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.0"D x 3"L (2.5 cm x 7.6 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering Information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|--------------------|-------------------|
| 4433-14-() | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

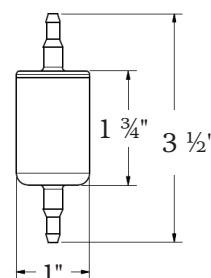
| Gas Flow Rates | | Flow Rates, CFM | | Flow Rates, SCFM/NM ³ /h | | | | | | |
|----------------|------------------------|-----------------|------------------------------------|---|----------|----------|----------|----------|----------|----------|
| Model | Volume of Housing (ml) | Filter Grade | at 10" Water Pressure Drop, 0 psig | at 2 PSI Drop at Indicated Line Pressure, PSIG (1)/BARG | | | | | | |
| | | | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 4433-14 | 11 | DQ | 0.2 | 0.4/0.68 | 0.7/1.19 | 1/6/1.7 | 1.2/2.04 | 1.5/2.55 | 1.6/2.72 | 1.8/3.06 |
| | | BQ | 0.1 | 0.3/0.51 | 0.5/0.85 | 0.7/1.19 | 0.8/1.36 | 1/1.7 | 1.1/1.87 | 1.2/2.04 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 4433-05 1/4" and 3/8" DFU with Integral Barb Fittings

Technical Information

- 1/4" Barbed Inlet/Outlet Ports 1st Tier; 3/8" Inlet/Outlet Ports 2nd Tier
- 11 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.0"D x 3.25"L (2.5 cm x 8 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering Information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|-------------|-------|--------------------|-------------------|
| 4433-05-(L) | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

| Model | Volume of Housing (ml) | Filter Grade | Flow Rates, CFM at 10" Water Pressure Drop, 0 psig | | Flow Rates, SCFM/NM ³ /h at 2 PSI Drop at Indicated Line Pressure, PSIG (1)/BARG | | | | | |
|---------|------------------------|--------------|--|---|---|---------|---------|----------|----------|-----------|
| | | | at 10" Water Pressure Drop, 0 psig | at 2 PSI Drop at Indicated Line Pressure, PSIG (1)/BARG | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig |
| 4433-05 | 11.33 | DQ | 0.2 | 1.2/2.0 | 2.5/4.2 | 3.9/6.6 | 5.4/9.2 | 6.8/11.6 | 8.3/14.1 | 10.1/17.2 |
| | | BQ | 0.1 | 0.8/1.4 | 1.6/2.7 | 2.6/4.4 | 3.5/6.0 | 4.5/7.6 | 5.4/9.0 | 6.6/11.21 |

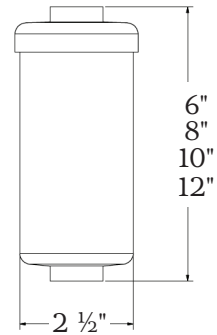
| Model | Volume of Housing | | Filter Grade | Water Flow Rates (gallons/hr) at Initial Pressure Drop | |
|---------|-------------------|--------|--------------|--|-----------------|
| | Gallons | Liters | | 1 PSI (0.07 bar) | 5PSI (0.34 bar) |
| 4433-05 | 0.003 | 0.01 | DQ | 12 | 30 |
| | | | BQ | 3 | 15 |
| | | | AQ | 1.5 | 7.3 |
| | | | AAQ | 0.4 | 1.9 |

DFUs for Particulate Removal from Compressed Air, Most Gases, and Liquids

Model 7825 DFU - Higher Flow with Female NPT Fittings

Technical Information

- 1/4" Inlet/Outlet Ports (FNPT)
- 125°F (52°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Polypropylene
- 1.0"D x 3.25"L (2.5 cm x 8 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering Information

Order housing and choose grade based on required efficiency.

| Housing | Grade | Gas Efficiency | Liquid Efficiency |
|----------|-------|--------------------|-------------------|
| 7825-() | DQ | 93% at 0.01μ | 98% at 25μ |
| | BQ | 99.99% at 0.01μ | 98% at 2μ |
| | AQ | 99.9999+ at 0.01μ | 98% at .9μ |
| | AAQ | 99.99999+ at 0.01μ | 98% at .3μ |

| Gas Flow Rates | | Filter Grade | Flow Rates, SCFM/NM3/h at 2 PSI Drop at Indicated Line Pressure | | | | | | |
|----------------|-------------|--------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| Series | Length Code | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 7825 | 06 | BQ | 3.5/5.6 | 7.1/11.4 | 10/16.1 | 13/20.9 | 16/25.8 | 17/27.4 | 20/32.2 |
| | | DQ | 5/8.1 | 11/17.7 | 16/25.8 | 20/32.2 | 25/40.3 | 27/43.5 | 31/49.9 |
| | 08 | BQ | 4.2/6.8 | 8.6/13.8 | 12/19.3 | 15.6/25.1 | 19.2/30.9 | 20.4/32.9 | 24/38.7 |
| | | DQ | 6/9.7 | 13.2/21.3 | 19.2/30.9 | 24/38.7 | 30/48.3 | 32.4/52.2 | 37.2/59.8 |
| | 10 | BQ | 4.6/7.5 | 9.4/15.2 | 13.4/21.5 | 17.4/27.9 | 21.4/34.4 | 22.6/36.5 | 26.6/42.9 |
| | | DQ | 6.6/10.7 | 14.6/23.6 | 21.4/34.4 | 26.6/42.9 | 33.4/53.7 | 36/58 | 41.4/66.6 |
| 12 | BQ | 4.9/7.9 | 9.9/16 | 14/22.5 | 18.2/29.3 | 22.4/36.1 | 23.8/38.3 | 28/45.1 | |
| | DQ | 7/11.3 | 15.4/24.8 | 22.4/36.1 | 28/45.1 | 35/56.4 | 37.8/60.9 | 43.4/69.9 | |

.01 Micron Membrane Filters

Disposable Membrane Assemblies for Critical High Purity Gases

The Balston GS Series Membrane Filter Cartridges combine absolute membrane filtration down to 0.01 μm , with an integral pre-filter to protect the membrane.

Ideally suited for high purity compressed air and gas requirements, these membrane cartridges are available in several housing configurations shown above.

Use as a Final Filter for:

- Ultra-high purity gases
- Corrosive or toxic gases
- Doping gases

Disposable Filter Units (DFU's)

Consist of a membrane filter and an integral prefilter, permanently bonded into a plastic housing. DFU's have pressure ratings to 125 psig (8.6 barg), and may be installed using a variety of fitting systems.

9933-05-95

Available in a transparent nylon housing, this DFU is an ideal choice for an economical membrane filter for use where its chemical compatibility is suitable.

9922-11-95

This opaque PVDF DFU, with approximately double the membrane area of the 9933-05-95, is used where exceptional chemical compatibility is required.

Model 9933-05-95

Technical Information

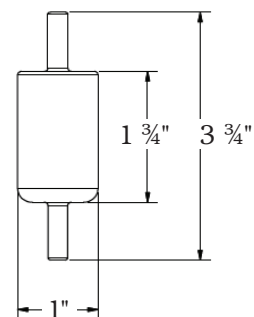
- 1/4" Inlet/Outlet Ports
- Housing Material: Nylon
- Cartridge Material: PTFE (Glass)
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C) Maximum Pressure
- Shipping Weight: 0.1 lb. (45 g)
- 3.25"H x 1.0" W (8 cm x 2.5 cm)

Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.



Ordering Information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

Flow Rates

| | Flow Rates, SCFM/NM ³ /h at 2 PSI (0.14 bar) Drop at Indicated Line Pressure (barg) | | | | | | | |
|------------|--|-----------|-----------|-----------|-----------|----------|----------|----------|
| Housing | 2 (0.1) | 20 (1.4) | 60 (4.1) | 100 (6.9) | 125 (8.6) | 150 (10) | 200 (14) | 300 (21) |
| 9933-05-95 | 0.5 (0.8) | 1.0 (1.7) | 1.5 (2.5) | 2.0 (3.4) | 2.2 (3.7) | N/A | N/A | N/A |

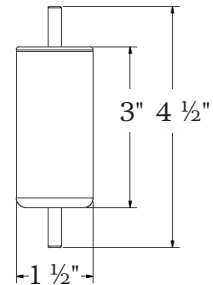
.01 Micron Membrane Filters

Disposable Membrane Assemblies for Critical High Purity Gases

Model 9922-11-95

Technical Information

- 1/4" Inlet/Outlet Ports
- Housing Material: PVDF
- Cartridge Material: PTFE (Glass)
- 250°F (121°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C) Maximum Pressure
- Shipping Weight: 0.2 lb. (90 g)
- 4.6"H x 1.43" W (12 cm x 3.6 cm)



Chemical compatibility

Suitable: Compressed air, inert gases, and 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 158°F (70°C); acetone; MEK, acetaldehyde; ammonia (to 25%).

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering Information

- 1) Order housing and choose grade based on required efficiency.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

Flow Rates

| Housing | Flow Rates, SCFM/NM ³ /h at 2 PSI (0.14 bar) Drop at Indicated Line Pressure (barg) | | | | | | | |
|------------|--|-----------|-----------|-----------|-----------|----------|----------|----------|
| | 2 (0.1) | 20 (1.4) | 60 (4.1) | 100 (6.9) | 125 (8.6) | 150 (10) | 200 (14) | 300 (21) |
| 9922-11-95 | 0.5 (0.8) | 1.0 (1.7) | 1.7 (2.9) | 2.2 (3.7) | 2.3 (3.9) | N/A | N/A | N/A |

Balston Disposable Adsorption Units

For vapor removal from compressed air and other gases

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.



Balston disposable adsorption units (DAU) for vapor removal from compressed air and other gases.

What to consider when using adsorbent cartridges

- 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 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 an 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).

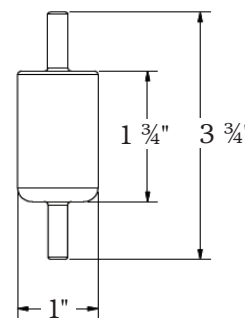
| Adsorbent | Grade | Use | Color Indicator | |
|-----------------------------------|-------|--|-----------------|-------------|
| | | | New | Spent |
| Carbon | 000 | Compressor oil vapors, C ₅ and heavier hydrocarbons, aromatics, oxygenated hydrocarbons, chlorinated organics, freons, carbon disulfide | No Change | |
| Silica gel | 101 | Water vapor only | Orange | Translucent |
| Molecular sieve 4A | 102 | Water vapor and inorganic vapors | No Change | |
| Molecular sieve 13X | 103 | Most C ₄ and lighter hydrocarbons, ethylene, propylene, acetylene, ethylene oxide, ammonia, meraptans, sulphur hexafluoride, triethylamine and smaller amines | No Change | |
| HGF Sulphur impregnated carbon | 105 | Mercury vapor removal | No Change | |
| Mixed sodium & calcium hydroxides | 107 | All acidic gases, including sulfur trioxide, sulfur dioxide, nitrogen dioxide, carbon dioxide, hydrogen chloride, phosphorus trichloride, sulfide, boron trifluoride | White | Blue |

DAUs for Vapor Removal from Compressed Air and Most Gases

Model 9933-05 Low Flow DAU

Technical Information

- 1/4" Inlet/Outlet Ports
- 11 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.0"D x 3.25"L (2.5 cm x 8 cm)



Chemical compatibility

Adsorbent Media: Select adsorbent media for purpose and compatibility when specifying.

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

Housing Limited Use: acetone; MEK, acetaldehyde; ammonia (to 25%).

Housing Unsuitable Use: Temperatures above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering information

- 1) Order housing and choose grade based on adsorbent choice.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Material |
|-------------|-------|-----------------------------------|
| 9933-05-(L) | 000 | Carbon |
| | 101 | Silica Gel |
| | 102 | Molecular Sieve, Type 4A |
| | 103 | Molecular Sieve, Type 13X |
| | 105 | HGF Sulphur Impregnated Carbon |
| | 107 | Mixed Sodium & Calcium Hydroxides |

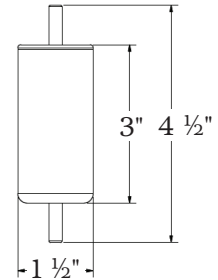
| Gas Flow Rates | | | Flow Rates, CFM | Flow Rates, SCFM | | | | | | |
|----------------|------------------------|-----------|------------------------------------|---|---------|---------|---------|---------|----------|----------|
| Model | Volume of Housing (ml) | DAU Grade | at 10" Water Pressure Drop, 0 psig | at 2 PSI Drop at Indicated Line Pressure, PSIG/BARG | | | | | | |
| | | | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 9933-05 | 11.33 | All | 0.2 | 0.5/0.8 | 1.2/2.0 | 1.9/3.2 | 2.6/4.4 | 3.3/5.6 | 4.0/6.8 | 4.7/8.0 |

DAUs for Vapor Removal from Compressed Air and Most Gases

Model 9933-11 Higher Flow DAU

Technical Information

- 1/4" Inlet/Outlet Ports
- 20 mL Internal Volume
- 230°F (110°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: Nylon
- 1.4"D x 4.6"L (3.6 cm x 12 cm)



Chemical compatibility

Adsorbent Media: Select adsorbent media for purpose and compatibility when specifying.

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

Housing Limited Use: acetone; MEK, acetaldehyde; ammonia (to 25%).

Housing Unsuitable Use: Temperatures above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Unsuitable: Water above 176°F (80°C); alcohols; glycols, phenol; aniline; DMF; concentrated acids; chlorine.

Ordering information

- 1) Order housing and choose grade based on adsorbent choice.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Material |
|-------------|-------|-----------------------------------|
| 9933-11-() | 000 | Carbon |
| | 101 | Silica Gel |
| | 102 | Molecular Sieve, Type 4A |
| | 103 | Molecular Sieve, Type 13X |
| | 105 | HGF Sulphur Impregnated Carbon |
| | 107 | Mixed Sodium & Calcium Hydroxides |

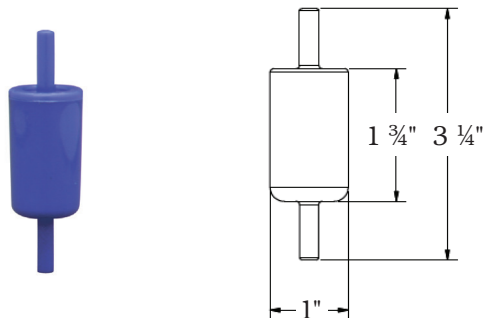
| Model | Gas Flow Rates Volume of Housing (ml) | DAU Grade | Flow Rates, CFM at 10" Water Pressure Drop, 0 psig | Flow Rates, SCFM at 2 PSI Drop at Indicated Line Pressure, PSIG/BARG | | | | | | |
|---------|--|-----------|--|--|---------|---------|---------|----------|----------|---------|
| | | | | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig | |
| 9933-11 | 19.82 | All | 0.4 | 0.7/1.2 | 1.7/2.9 | 2.5/4.2 | 3.7/6.3 | 4.3/7.3 | 5.0/8.5 | 5.7/9.7 |

DAUs with High Chemical Resistance for Vapor Removal from Gas

Model 9922-05 High Chemical Resistance, Low Flow DAU

Technical Information

- 1/4" Inlet/Outlet Ports
- 11 mL Internal Volume
- 275°F (135°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: PVDF
- 1.0"D x 3.25"L (2.5 cm x 8 cm)



Chemical compatibility

Adsorbent Media: Select adsorbent media for purpose and compatibility when specifying.

Housing Suitable Use: Temperatures to 200°F (135°C); concentrated nitric, sulfuric, hydrochloric acids; chlorine (gas or liquid); sodium hypochlorite, ethylene oxide (gas or liquid); Freons; ammonia (gas, liquid, or aqueous solutions); 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.

Housing Limited Use: Acetone, MEK, dioxane, furfural, methylene chloride.

Housing Unsuitable Use: Water above 200°F (135°C), THF, DMF, ethylene diamine, chlorosulfonic acid, ethanolamine, pyridine, sulfur trioxide.

Ordering information

- 1) Order housing and choose grade based on adsorbent choice.
- 2) Add an "A" before the housing to order in 100 bulk pack.
- 3) Standard packaging is 10 per box.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Material |
|-------------|-------|-----------------------------------|
| 9922-05-() | 000 | Carbon |
| | 101 | Silica Gel |
| | 102 | Molecular Sieve, Type 4A |
| | 103 | Molecular Sieve, Type 13X |
| | 105 | HGF Sulphur Impregnated Carbon |
| | 107 | Mixed Sodium & Calcium Hydroxides |

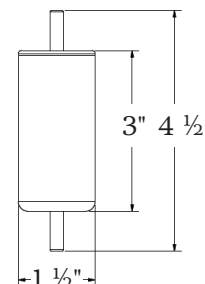
| Model | Volume of Housing (ml) | DAU Grade | Flow Rates, CFM at 10" Water Pressure Drop, 0 psig | Flow Rates, SCFM at 2 PSI Drop at Indicated Line Pressure, PSIG/BARG | | | | | | |
|---------|------------------------|-----------|--|--|---------|---------|---------|---------|----------|----------|
| | | | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 9922-05 | 11.33 | All | 0.2 | 0.5/0.8 | 1.2/2.0 | 1.9/3.2 | 2.6/4.4 | 3.3/5.6 | 4.0/6.8 | 4.7/8.0 |

DAUs with High Chemical Resistance for Vapor Removal from Gas

Model 9922-11 High Chemical Resistance, Higher Flow DAU

Technical Information

- 1/4" Inlet/Outlet Ports
- 20 mL Internal Volume
- 275°F (135°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Body Material: PVDF
- 1.4"D x 4.6"L (3.6 cm x 12 cm)



Chemical compatibility

Adsorbent Media: Select adsorbent media for purpose and compatibility when specifying.

Housing Suitable Use: Temperatures to 200°F (135°C); concentrated nitric, sulfuric, hydrochloric acids; chlorine (gas or liquid); sodium hypochlorite, ethylene oxide (gas or liquid); Freons; ammonia (gas, liquid, or aqueous solutions); 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.

Housing Limited Use: Acetone, MEK, dioxane, furfural, methylene chloride.

Housing Unsuitable Use: Water above 200°F (135°C), THF, DMF, ethylene diamine, chlorosulfonic acid, ethanolamine, pyridine, sulfur trioxide.

Ordering information

- 1) Order housing and choose grade based on adsorbent choice.
- 2) Standard packaging is 10 per box.
- 3) Add an "A" before the housing to order in 100 bulk pack.
- 4) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Material |
|-------------|-------|-----------------------------------|
| 9922-11-() | 000 | Carbon |
| | 101 | Silica Gel |
| | 102 | Molecular Sieve, Type 4A |
| | 103 | Molecular Sieve, Type 13X |
| | 105 | HGF Sulphur Impregnated Carbon |
| | 107 | Mixed Sodium & Calcium Hydroxides |

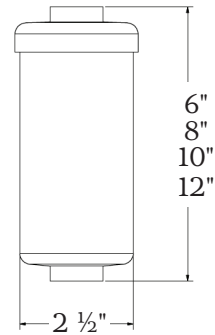
| Model | Gas Flow Rates | | Flow Rates, CFM at 10" Water Pressure Drop, 0 psig | Flow Rates, SCFM at 2 PSI Drop at Indicated Line Pressure, PSIG/BARG | | | | | | |
|---------|------------------------|-----------|--|--|---------|---------|---------|---------|----------|----------|
| | Volume of Housing (ml) | DAU Grade | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 9922-11 | 19.82 | All | 0.4 | 0.7/1.2 | 1.7/2.9 | 2.5/4.2 | 3.7/6.3 | 4.3/7.3 | 5.0/8.5 | 5.7/9.7 |

High Flow DAU with Female NPT Fittings for Vapor Removal from Gases

Model 7825 DAU - Highest Flow

Technical Information

- 1/4" Inlet/Outlet Ports (FNPT)
- 125°F (52°C) Maximum Temperature at 0 psig
- 125 psig (8.62 barg) at 110°F (43°C)
- Polypropylene
- 1.0"D x 3.25"L (2.5 cm x 8 cm)



Chemical compatibility

Adsorbent Media: Select adsorbent media for purpose and compatibility when specifying.

Housing Suitable Use: Temperatures to 200°F (135°C); concentrated nitric, sulfuric, hydrochloric acids; chlorine (gas or liquid); sodium hypochlorite, ethylene oxide (gas or liquid); Freons; ammonia (gas, liquid, or aqueous solutions); 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.

Housing Limited Use: Acetone, MEK, dioxane, furfural, methylene chloride.

Housing Unsuitable Use: Water above 200°F (135°C), THF, DMF, ethylene diamine, chlorosulfonic acid, ethanolamine, pyridine, sulfur trioxide.

Ordering information

- 1) Order housing and choose grade based on adsorbent choice.
- 2) Add an "A" before the housing to order in 100 bulk pack.
- 3) Add a "C" before the housing to order in 500 bulk pack.

| Housing | Grade | Material |
|-------------|-------|-----------------------------------|
| 7525-06-() | 000 | Carbon |
| | 101 | Silica Gel |
| | 102 | Molecular Sieve, Type 4A |
| | 103 | Molecular Sieve, Type 13X |
| | 105 | HGF Sulphur Impregnated Carbon |
| | 107 | Mixed Sodium & Calcium Hydroxides |

| Gas Flow Rates | | Media Grade | Flow Rates, SCFM/NM3/h at 2 PSI Drop at Indicated Line Pressure | | | | | | |
|----------------|-------------|---------------------------------|---|----------|-----------|-----------|-----------|-----------|-----------|
| Series | Length Code | | 2 psig | 20 psig | 40 psig | 60 psig | 80 psig | 100 psig | 125 psig |
| 7825 | 06 | [select media grade from chart] | 3.5/5.6 | 7.1/11.4 | 10/16.1 | 13/20.9 | 16/25.8 | 17/27.4 | 20/32.2 |
| | 08 | | 4.2/6.8 | 8.6/13.8 | 12/19.3 | 15.6/25.1 | 19.2/30.9 | 20.4/32.9 | 24/38.7 |
| | 10 | | 4.6/7.5 | 9.4/15.2 | 13.4/21.5 | 17.4/27.9 | 21.4/34.4 | 22.6/36.5 | 26.6/42.9 |
| | 12 | | 4.9/7.9 | 9.9/16 | 14/22.5 | 18.2/29.3 | 22.4/36.1 | 23.8/38.3 | 28/45.1 |



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