

Coalescing Compressed Air Filters

Balston Microfiber® Filter Assemblies

Balston Coalescing Compressed Air Filters protect your equipment and delicate instruments from the dirt, water, and oil usually found in compressed air. Balston 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 a Balston Coalescing Filter to continue removing liquids for an unlimited time without loss of efficiency or flow capacity. Select 1/4" to 2" line filters come with a lifetime (20 year) warranty which guarantees the product against defects and other failures.



Product Features

- 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
- Lifetime warranty (20 year) with select 1/4" to 2" line filters

Compressed Air Systems



Instrumentation and Automated Pneumatic Controls



Pneumatic Tools and Cylinders



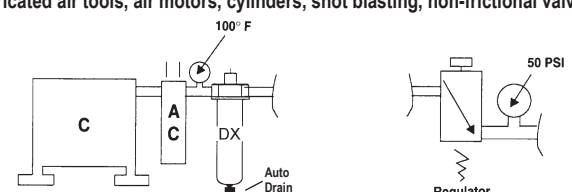
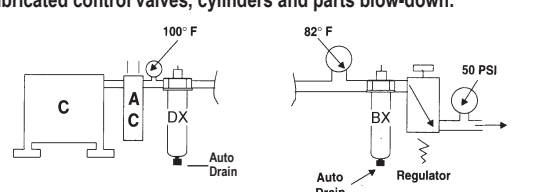
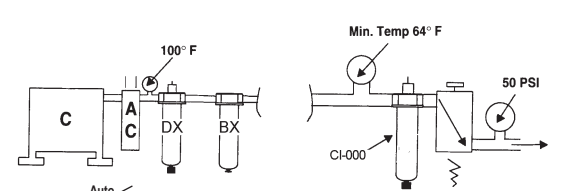
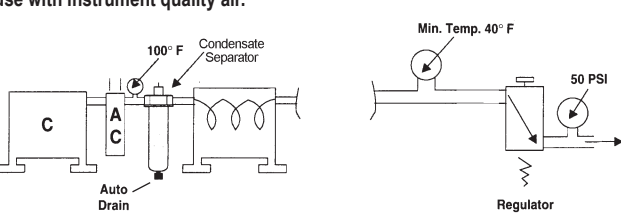
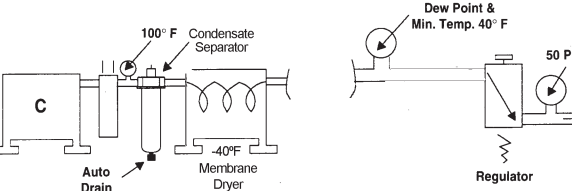
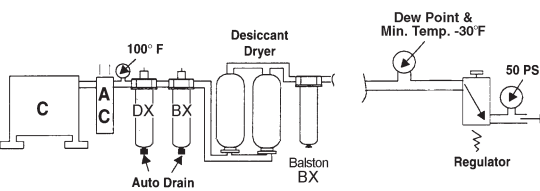
Compressed Air Filters

International ISO Standards

Table taken from ISO8573 - 1

| Class | Solid | | Water | | Oil | |
|-------|--------------------------------|--|-----------------------------------|-----------------------------------|--|--|
| | Maximum Particle Size (micron) | Maximum Concentration ppm (mg/m ³) | Maximum Pressure Dewpoint °F (°C) | Maximum Pressure Dewpoint °F (°C) | Maximum Concentration ppm (mg/m ³) | Maximum Concentration ppm (mg/m ³) |
| 1 | 0.1 | .08 (0.1) | -94 (-70) | -94 (-70) | .008 (0.01) | .008 (0.01) |
| 2 | 1 | .8 (1) | -40 (-40) | -40 (-40) | .08 (0.1) | .08 (0.1) |
| 3 | 5 | 4.2 (5) | -4 (-20) | -4 (-20) | .83 (1) | .83 (1) |
| 4 | 15 | 6.7 (8) | 37 (+3) | 37 (+3) | 4.2 (5) | 4.2 (5) |
| 5 | 40 | 8.3 (10) | 45 (+7) | 45 (+7) | 21 (25) | 21 (25) |
| 6 | - | - | 50 (+10) | 50 (+10) | - | - |

ISO Class Example **1** Solid **4** Water **1** Oil

| | |
|--|--|
| <p>ISO Class 2 2</p> <p>Any compressor with aftercooler and coalescer. Air intended for use with lubricated air tools, air motors, cylinders, shot blasting, non-frictional valves.</p>  <p>ADDITIONAL SPECS: CGA - G7.1 (Grades A & Ba1)</p> | <p>ISO Class 1 1</p> <p>Any compressor with aftercooler and 2-stage coalescing. Air intended for use as lubricated control valves, cylinders and parts blow-down.</p>  <p>ADDITIONAL SPECS: Mil. Std. 282 H.E.P.A., U.S.P.H.S. 3A accepted particles for milk.</p> |
| <p>ISO Class 1 1</p> <p>Any compressor with aftercooler, 2-stage coalescing and activated carbon filter. Air intended for use with general pneumatics systems.</p>  <p>ADDITIONAL SPECS: CGA - G7.1 (Grade C)</p> | <p>ISO Class 1 4 1</p> <p>Any compressor with aftercooler, 2-stage coalescing and refrigerated dryer for use with instrument quality air.</p>  <p>ADDITIONAL SPECS: CGA - G7.1 (Grade D & E) ISA S7.3, sFed. Std. 209 (Class 100)</p> |
| <p>ISO Class 2 2</p> <p>Any compressor with aftercooler, 2-stage coalescing, and a -40°F membrane air dryer. Air intended for use as industrial breathing air and decompression chambers.*</p>  <p>ADDITIONAL SPECS: O.S.H.A. 29CFR 1910.134 *CO Monitor required.</p> | <p>ISO Class 1 1 1</p> <p>Any 2-stage compressor with aftercooler, double coalescing and a regenerative type desiccant dryer. Air intended for use in applications involving critical instrumentation and high purity gases.</p>  <p>ADDITIONAL SPECS: CGA - G7.1 (Grade F)</p> |

Note: In the pictorial examples shown above, the contribution of hydrocarbon vapors has not been taken into account in determining the OIL class category.

Compressed Air Filters

Compressed Air and Gas Water Separators

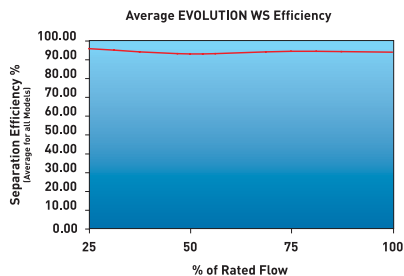
Protect your equipment from contamination:

Balston's new water separators have been designed for the efficient removal of bulk liquid contamination from compressed air. Today, many products are offered for the removal of bulk liquid from compressed air, however, these are often selected based only upon their initial purchase cost, with little or no regard for the separation efficiency they provide or the cost of operation throughout their life. Balston's water separators have been designed from the ground up with the key design focus on air flow management, separation efficiency at all flow conditions, minimal pressure losses and independently validated performance.



Compressed Air Filters

Separation Efficiency



Tested with an inlet challenge concentration of 33ml/m³hr and in accordance with ISO 8573.9. Performance shown is an average for all models in range. Individual model performance available on request.

Product Features:

- Tested in accordance with ISO 8573.9
- High liquid removal efficiencies at all flow conditions
- Float drain automatically expels condensate build-up
- Low pressure losses for low operational costs
- Suitable for variable flow compressors
- Works with all types of compressor and compressor condensate
- Low maintenance

Applications:

- Bulk liquid removal at any point in a compressed air system
- Protection to membrane and desiccant dryer prefiltration
- Liquid removal from compressor inter-coolers / after-coolers
- Liquid separation within refrigeration dryers

Compressed Air Filters

Compressed Air and Gas Water Separators

Product Selection and Technical Data

| Part Number | Port Size (inches) NPT | SCFM/Nm ³ /hr. at 100 psig (7 barg) | Max Operating Pressure psig (barg) | Max Operating Temp °F (°C) | Min Operating Temp °F (°C) |
|-------------|------------------------|--|------------------------------------|----------------------------|----------------------------|
| WS002N | 1/4" | 25 (42) | 232 (16) | 176 (80) | 35 (1.7) |
| WS003N | 3/8" | 25 (42) | 232 (16) | 176 (80) | 35 (1.7) |
| WS004N | 1/2" | 25 (4) | 232 (16) | 176 (80) | 35 (1.7) |
| WSOH3N | 3/8" | 100 (170) | 232 (16) | 176 (80) | 35 (1.7) |
| WSOH4N | 1/2" | 100 (170) | 232 (16) | 176 (80) | 35 (1.7) |
| WS006N | 3/4" | 100 (170) | 232 (16) | 176 (80) | 35 (1.7) |
| WS008N | 1" | 100 (170) | 232 (16) | 176 (80) | 35 (1.7) |
| WSOH6N | 3/4" | 250 (425) | 232 (16) | 176 (80) | 35 (1.7) |
| WSOH8N | 1" | 250 (425) | 232 (16) | 176 (80) | 35 (1.7) |
| WS0010N | 1-1/4" | 250 (425) | 232 (16) | 176 (80) | 35 (1.7) |
| WS0012N | 1-1/2" | 250 (425) | 232 (16) | 176 (80) | 35 (1.7) |
| WSOH10N | 1-1/4" | 750 (1274) | 232 (16) | 176 (80) | 35 (1.7) |
| WSOH12N | 1-1/2" | 750 (1274) | 232 (16) | 176 (80) | 35 (1.7) |
| WS0016N | 2" | 750 (1274) | 232 (16) | 176 (80) | 35 (1.7) |
| WS0020N | 2-1/2" | 1700 (2888) | 232 (16) | 176 (80) | 35 (1.7) |
| WS0024N | 3" | 1700 (2888) | 232 (16) | 176 (80) | 35 (1.7) |

Flow/Pressure

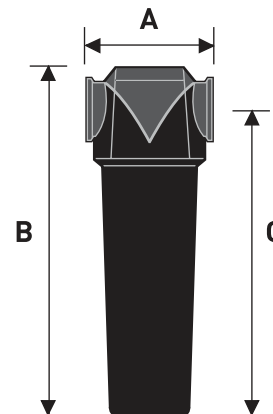
Correction Factors

(to calculate flow rates below and above 100 PSIG use this table)

| Line Pressure psig (barg) | Correction Factor |
|---------------------------|-------------------|
| 15 (1) | 0.25 |
| 29 (2) | 0.38 |
| 44 (3) | 0.50 |
| 58 (4) | 0.63 |
| 73 (5) | 0.75 |
| 87 (6) | 0.88 |
| 100 (7) | 1.00 |
| 116 (8) | 1.06 |
| 131 (9) | 1.12 |
| 145 (10) | 1.17 |
| 160 (11) | 1.22 |
| 174 (12) | 1.27 |
| 189 (13) | 1.32 |
| 203 (14) | 1.37 |
| 218 (15) | 1.41 |
| 232 (16) | 1.46 |

Dimensions and Weights

| Part Number | Port Size (inches) | Dimensions inches (cm) | | | Weight lbs (kg) |
|-------------|--------------------|------------------------|-----------|-----------|-----------------|
| | | A | B | C | |
| WS002N | 1/4" | 3 (8) | 7.2 (18) | 6 (15) | 1.3 (0.6) |
| WS003N | 3/8" | 3 (8) | 7.2 (18) | 6 (15) | 1.3 (0.6) |
| WS004N | 1/2" | 3 (8) | 7.2 (18) | 6 (15) | 1.3 (0.6) |
| WSOH3N | 3/8" | 3.8 (10) | 9.3 (24) | 7.9 (20) | 2.4 (1.1) |
| WSOH4N | 1/2" | 3.8 (10) | 9.3 (24) | 7.9 (20) | 2.4 (1.1) |
| WS006N | 3/4" | 3.8 (10) | 9.3 (24) | 7.9 (20) | 2.4 (1.1) |
| WS008N | 1" | 3.8 (10) | 9.3 (24) | 7.9 (20) | 2.4 (1.1) |
| WSOH6N | 3/4" | 5.1 (13) | 10.8 (27) | 9.2 (23) | 4.8 (2.2) |
| WSOH8N | 1" | 5.1 (13) | 10.8 (27) | 9.2 (23) | 4.8 (2.2) |
| WS0010N | 1-1/4" | 5.1 (13) | 10.8 (27) | 9.2 (23) | 4.8 (2.2) |
| WS0012N | 1-1/2" | 5.1 (13) | 10.8 (27) | 9.2 (23) | 4.8 (2.2) |
| WSOH10N | 1-1/4" | 6.7 (17) | 17 (43) | 15 (38) | 11.2 (5.1) |
| WSOH12N | 1-1/2" | 6.7 (17) | 17 (43) | 15 (38) | 11.2 (5.1) |
| WS0016N | 2" | 6.7 (17) | 17 (43) | 15 (38) | 11.2 (5.1) |
| WS0020N | 2-1/2" | 8.1 (21) | 19.9 (51) | 17.5 (44) | 22 (10.0) |
| WS0024N | 3" | 8.1 (21) | 19.9 (51) | 17.5 (44) | 22 (10.0) |



Compressed Air Filters

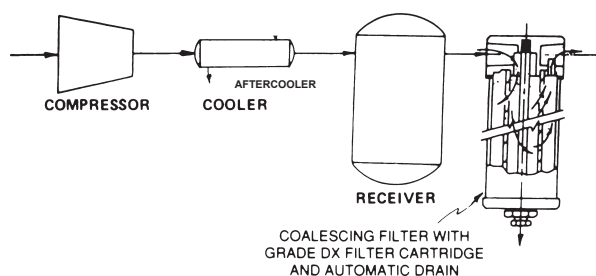
Filter Installation Recommendations

Recommendations for Typical Filter Installations

Selecting the proper location for a 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 prefilter (mounted on the compressor), a compressor, aftercooler, and a receiver. The Balston filter should be installed downstream from the receiver. 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 filter be installed as close to the point(s) of use as possible.



Compressor Filter Specifications

| | |
|---------------------------------|--|
| Microfibre 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 just before the main air line branches into smaller distribution lines will remove most of the water load from the system. The filter requirements for the main line are described above; they are the same as for a system with an aftercooler. However, since the air will continue to cool in the distribution system, additional filters located at end-use points will be required to remove water condensed downstream from the main line filter.

How to Obtain a Trouble-Free Coalescer

The mechanism of coalescing leads to three important considerations in selecting and installing a coalescing filter:

- 1 The filter should be large enough to ensure that the air exits the filter at low velocity and does not carry over coalesced liquid. Proper sizing of a Balston coalescing filter is easily done by using the recommendations or the maximum flow rate data. There is no danger on oversizing the filter. A Balston coalescing filter is even more efficient at extremely low flow rates than at its maximum rated flow capacity.
- 2 To avoid liquid carryover, the coalesced liquid should not be allowed to build up in the filter housing above the level of the bottom of the filter tube.

Rather than relying on operator attention to this easily-overlooked job, Parker Hannifin Corp. recommends automatic drains with all coalescing filters.
- 3 The flow direction through the Microfibre filter tube must be inside-to-outside to permit the liquid to drip from the outside of the tube to the drain in the filter housing. If installed outside-to-inside, the filter will at first function as a coalescing filter, but liquid will collect on the inside of the filter tube. Since there is no way of draining the liquid, the level will build up rapidly until it begins to be carried downstream by the air flow. The filter will work at removing liquids for a short time, and then not work at all. If the Balston coalescing filter exhibits these symptoms, reversing the flow direction will solve the problem.

Compressed Air Filters

Filter Cartridge and Housing Selection

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 type CI cartridge. |

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 (7 bar) |
| Materials of Construction | Borosilicate glass microfibers with fluorocarbon resin binder. Resistant to water, all hydrocarbon and synthetic lubricants. |

Retention Efficiency

| Grade | Efficiency for 0.01 Micron Particles and Droplets |
|-------|---|
| DX | 93% |
| BX | 99.99% |
| CI | 99.99% + adsorption |
| SA | 99.9999% |

Balston Filter Cartridges

Balston provides two grades of coalescing filter cartridges, Grade DX and Grade BX. Singly or in tandem, these filters satisfy all requirements for removing liquid and solid contaminants from compressed air. Balston also has an activated carbon adsorbent CI-type cartridge for the removal of trace oil vapors from a compressed air line. The activated carbon cartridge is Grade 000.

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).

How to Order the Filter Assembly

- 1 Build your own custom filter assembly using the guideline matrix on Page 12 and specify your model number. Example: 1/2" filter with DPI and Auto Drain with Grade DX Filter = 6004N-01A-DX.
- 2 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.

Compressed Air Filters

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 for maximum pressure rating of each housing. CI & SA = 3 psi drop. | | | | | | | | | | |
|----------------------|-----------|------------------------|--|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| | | | 2 | 20 | 40 | 80 | 100 | 125 | 150 | 200 | 250 | 400 | 650 |
| A914A | 1/4" | DX | 4 | 9 | 13 | 24 | 29 | 36 | 43 | 55 | 67 | — | — |
| A914, A914D, A914P | | BX | 1.2 | 2.4 | 4 | 7 | 8 | 9 | 12 | 15 | 17 | — | — |
| 2002 | 1/4" | DX | 9 | 19 | 30 | 51 | 63 | 76 | 90 | 117 | 145 | — | — |
| 2003 | 3/8" | BX | 3 | 8 | 11 | 21 | 25 | 31 | 36 | 47 | 58 | — | — |
| 2004 | 1/2" | CI | 2 | 5 | 7 | 12 | 15 | 18 | 22 | 28 | 35 | — | — |
| 2104 | 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 | — | — |
| 2206 | 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 | — | — |
| 2208 | 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 | — | — |
| 2312 | 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 | — | — |
| A15/80 | 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 | — | — |
| AKH-0280 | 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 |
| AKH-0480 | 4" | DX | 740 | 1540 | 2430 | 4210 | 5100 | 6210 | 7300 | 9550 | 11750 | 18400 | 29480 |
| | | BX | 180 | 380 | 590 | 1020 | 1240 | 1510 | 1780 | 2320 | 2860 | 4480 | 7180 |
| | | CI | 94 | 196 | 308 | 632 | 644 | 780 | 920 | 1200 | 1480 | 2320 | 3710 |
| AKH-0880 | 6" | DX | 1500 | 3120 | 4910 | 8500 | 10300 | 12550 | 14800 | 19300 | 23700 | 37120 | 59460 |
| | | BX | 360 | 750 | 1180 | 2050 | 2480 | 3020 | 3560 | 4640 | 5710 | 8940 | 14330 |
| | | CI | 188 | 392 | 616 | 1064 | 1280 | 1560 | 1840 | 2390 | 2950 | 4620 | 7400 |
| AKH-1480 | 8" | DX | 2620 | 5450 | 8580 | 14860 | 18000 | 21900 | 25800 | 33700 | 41540 | 65050 | 104200 |
| | | BX | 630 | 1310 | 2070 | 3580 | 4340 | 5300 | 6230 | 8120 | 10010 | 15680 | 25100 |
| | | CI | 329 | 686 | 1078 | 1860 | 2250 | 2740 | 3230 | 4210 | 5190 | 8130 | 13020 |
| AKH-2280 | 10" | DX | 4080 | 8470 | 13350 | 23110 | 28000 | 34100 | 40200 | 52400 | 64590 | 101150 | 162050 |
| | | BX | 1000 | 2070 | 3270 | 5660 | 6850 | 8340 | 9840 | 12800 | 15780 | 24700 | 39600 |
| | | CI | 516 | 1077 | 1690 | 2920 | 3540 | 4310 | 5070 | 6610 | 8150 | 12760 | 20450 |

Compressed Air Filters

Flow Rates (metric)

| Filter Housing Model | Port Size | Filter Cartridge Grade | Flow rates Nm ³ /hr, at 2 psi drop at indicated line pressure. Refer to Principal Specification for maximum pressure rating of each housing. CI & SA = 3 psi drop. | | | | | | | | | | |
|----------------------|-----------|------------------------|---|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| | | | 0.14 barg | 1.4 | 2.8 | 5.5 | 6.9 | 8.6 | 10.3 | 13.8 | 17.3 | 27.6 | 44.8 |
| A914A | 1/4" | DX | 7 | 15 | 22 | 241 | 49 | 61 | 73 | 93 | 114 | — | |
| A914, A914D, A914P | | BX | 2 | 4 | 7 | 12 | 14 | 15 | 20 | 25 | 29 | — | |
| 2002 | 1/4" | DX | 15 | 32 | 66 | 87 | 107 | 129 | 153 | 199 | 246 | — | |
| 2003 | 3/8" | BX | 5 | 14 | 19 | 36 | 42 | 53 | 61 | 80 | 99 | — | |
| 2004 | 1/2" | CI | 3 | 8 | 12 | 20 | 25 | 31 | 37 | 48 | 59 | — | |
| 2104 | 1/2" | DX | 32 | 70 | 110 | 192 | 233 | 282 | 333 | 437 | 537 | — | |
| | | BX | 15 | 32 | 51 | 87 | 107 | 129 | 153 | 199 | 246 | — | |
| | | CI | 10 | 20 | 32 | 54 | 66 | 82 | 95 | 124 | 153 | — | |
| 2206 | 3/4" | DX | 63 | 133 | 209 | 364 | 440 | 535 | 630 | 822 | 1013 | — | |
| | | BX | 17 | 36 | 59 | 95 | 119 | 144 | 172 | 223 | 275 | — | |
| | | CI | 14 | 27 | 44 | 75 | 90 | 110 | 129 | 168 | 207 | — | |
| 2208 | 1" | DX | 93 | 195 | 308 | 533 | 646 | 787 | 928 | 1208 | 1490 | — | |
| | | BX | 19 | 39 | 63 | 109 | 131 | 160 | 189 | 245 | 302 | — | |
| | | CI | 17 | 34 | 54 | 95 | 114 | 139 | 163 | 212 | 262 | — | |
| 2312 | 1 1/2" | DX | 167 | 345 | 542 | 941 | 1139 | 1386 | 1636 | 2131 | 2627 | — | |
| | | BX | 37 | 78 | 126 | 219 | 263 | 321 | 379 | 493 | 608 | — | |
| | | CI | 27 | 56 | 88 | 155 | 187 | 228 | 268 | 350 | 430 | — | |
| A15/80 | 2" | DX | 272 | 566 | 892 | 1543 | 1869 | 2277 | 2684 | 3500 | 4315 | — | |
| | | BX | 76 | 160 | 251 | 435 | 527 | 642 | 756 | 985 | 1215 | — | |
| | | CI | 39 | 83 | 131 | 226 | 274 | 335 | 392 | 511 | 630 | — | |
| AKH-0280 | 3" | DX | 618 | 1291 | 2022 | 3500 | 4248 | 5173 | 6116 | 7951 | 9803 | 15342 | 24602 |
| | | BX | 153 | 323 | 510 | 866 | 1053 | 1283 | 1512 | 1971 | 2430 | 3806 | 6099 |
| | | CI | 80 | 167 | 262 | 452 | 547 | 669 | 785 | 1023 | 1216 | 1971 | 3160 |
| AKH-0480 | 4" | DX | 1257 | 2616 | 4129 | 7153 | 8665 | 10551 | 12403 | 16225 | 19963 | 31262 | 50087 |
| | | BX | 306 | 646 | 1002 | 1733 | 2107 | 2565 | 3024 | 3942 | 4859 | 7612 | 12199 |
| | | CI | 160 | 333 | 523 | 1074 | 1094 | 1325 | 1563 | 2039 | 2515 | 3942 | 6303 |
| AKH-0880 | 6" | DX | 2549 | 5301 | 8342 | 14442 | 17500 | 21322 | 25145 | 32791 | 40266 | 63067 | 101023 |
| | | BX | 612 | 1274 | 2005 | 3483 | 4214 | 5131 | 6048 | 7883 | 9701 | 15189 | 24347 |
| | | CI | 319 | 666 | 1047 | 1808 | 2175 | 2650 | 3126 | 4061 | 5012 | 7849 | 12573 |
| AKH-1480 | 8" | DX | 4451 | 9260 | 14577 | 25247 | 30582 | 37208 | 43834 | 57256 | 70576 | 110520 | 177036 |
| | | BX | 1070 | 2226 | 3517 | 6082 | 7374 | 9005 | 10585 | 13796 | 17007 | 26640 | 42645 |
| | | CI | 559 | 1166 | 1832 | 3160 | 3823 | 4655 | 5488 | 7153 | 8818 | 13813 | 22121 |
| AKH-2280 | 10" | DX | 6932 | 14391 | 22682 | 39264 | 47572 | 57936 | 68300 | 89028 | 109738 | 171854 | 275323 |
| | | BX | 1699 | 3517 | 5556 | 9616 | 11638 | 14170 | 16718 | 21747 | 26810 | 41965 | 67280 |
| | | CI | 877 | 1830 | 2871 | 4961 | 6014 | 7323 | 8614 | 11230 | 13487 | 21679 | 34745 |

Compressed Air Filters

Filter Installation Recommendations

Removing Oil from Compressed Air

The source of oil in compressed air is the compressor lubricant. The common plant problems resulting from oil in the air are caused by liquid oil depositing in valves, instrument control surfaces, and other critical points in the air distribution system.

Balston often receives inquiries from users of compressed air about removing oil vapor from the air, yet the only reason for concern about oil vapor in most applications is that it may condense to liquid oil. Just like water vapor, oil vapor will condense to liquid when the temperature is reduced or the air pressure is increased at constant temperature. However, the table below shows that while in theory, condensation of oil vapor and water vapor are similar, in practice the effect of condensation of the two vapors is quite different.

Concentration of vapor, parts per million by weight (ppm) in air at 100 psig (7 barg), at indicated temperature

| | Petroleum Base Oil | Synthetic Oil | Water |
|--------------|--------------------|---------------|---------|
| 80°F (27°C) | 0.012 | 0.002 | 2,743. |
| 100°F (38°C) | 0.05 | 0.01 | 5,137. |
| 125°F (52°C) | 0.2 | 0.06 | 10,508. |
| 150°F (66°C) | 0.7 | 0.2 | 20,119. |
| 200°F (93°C) | 3.5 | 2.4 | 62,371. |

From the above figures, one can calculate that if 100 SCFM (170Nm³/h) of air is filtered at 125°F (52°C) to remove all liquids, and is subsequently cooled to 80°F (27°C), condensed liquids would consist of: water 3.6 lbs. (1.64 kg) per hour, and either petroleum base oil 0.001 lbs. (0.46 g) per hour, or synthetic oil 0.0003 lbs. (1.4 g) per hour. Condensed water is potentially a serious problem, but the quantity of condensed oil vapor is extremely small.

Field tests show that the liquid oil in air from a well-maintained reciprocating compressor is typically in the range of 15 to 30 ppm. With an oil-sealed rotary screw compressor, liquid oil content in the compressed air can vary from 10 to more than 100 ppm, depending upon the efficiency of the bulk oil separator. Compared to these figures, the approximate 0.2 ppm of liquid oil which could result from oil vapor condensation is for practical purposes negligible.

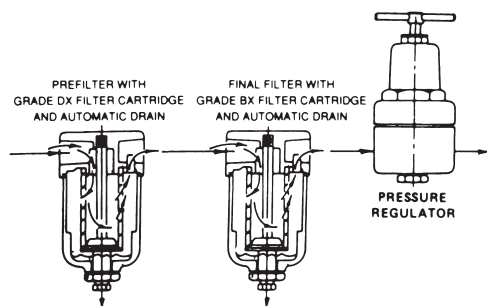
Therefore, removing the liquid oil from compressed air with a Balston coalescing filter, even at temperatures as high as 125°F (52°C), will eliminate the chance of oil-caused problems downstream in virtually all installations.

There are rare instances in which even 0.2 ppm oil vapor in the air or gas can cause a problem; for example, in contact with a sensitive catalyst or other highly reactive material.

In those cases, the trace quantity of oil vapor can be reduced using an adsorbent-loaded cartridge, following coalescing filter to remove the liquid oil.

Placing the Filter at the Point-Of-Use

Whether or not the system has an aftercooler, Balston strongly recommends 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. Alternatively, replace the existing regulator with a combination Balston filter-regulator.



Point-of-Use Filter Recommendations

| | |
|-----------------------------|--------------------------------------|
| Microfibre Filter Cartridge | Grade BX |
| Filter Housing | Size from flow chart or by line size |
| Automatic Drain | Recommended (refer to Page 18) |

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. Parker recommends a single-stage Grade DX filter with automatic drain.

Compressed Air Filters

Filter Installation Recommendations

Using Filters With Air Dryers

Properly specified filters are relatively inexpensive protection for air dryers. Both refrigerated and desiccant dryers benefit from filter protection.

Refrigerated Dryers

A Grade DX prefilter with 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 a Balston 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 Balston Grade DX filter cartridge is recommended for this downstream installation location. (Note: All Balston desiccant dryers are equipped with prefilters and final filters, as recommended above).

Membrane Dryers

Membrane air dryers are sensitive to water and oil droplets. Oil can permanently damage the hollow fiber core. Balston Membrane Air Dryers are assembled with maximum protection, two stage coalescing filters (Grade DX followed by BX) designed to remove all contaminants down to 0.01 microns. Most all other membrane dryers are not assembled with adequate prefiltration protection and should be protected with a two stage Balston Filter System (Grade DX, Grade BX).

Maintaining The Filters

In a typical compressed air delivery system, a properly specified Balston 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 filter should be changed when the pressure drop reaches 10 psi (0.7 barg). At pressure drops higher than 10 psig (0.7 barg), 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 Balston Differential Pressure Indicators (DPI) on the filters or across a multi-filter installation. The DPI gives a visual indication of differential pressure through the filter cartridge. The Balston Differential Pressure Indicator is factory-installed on 1/4" and larger line size Balston Compressed Air Filter Assemblies. To use a DPI with a smaller Balston Compressed Air Filter, pressure taps must be provided with "tees" on the line upstream and downstream from the filter.

Compressed Air Filters

1/4" and 1/2" Line Size Filters

Models A914D, A914P, A914, A914A

Models A914P and A914D are 1/4" line size assemblies with simple, reliable "automatic" drains used for low flow applications with moderate levels of liquid contaminate. The A914P is designed to empty condensate when there is a sudden pressure drop through the system (intermittent compressed air demand applications). The A914D incorporates an overnight drain which will drain liquid contaminate when the compressed air system pressure drops below 5 psig (0.4 barg). The standard A914 utilizes a standard manual threaded drain. All models have a transparent polycarbonate bowl with an aluminum head. The Model A914A has a zinc bowl.



Model A914D,
A914P, A914



Model A914A

Models 2002, 2003, and 2004

Models 2002 and 2003 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 2004 series is designed to service 1/2" compressed air lines with low flow rates.

Model 2104

The Model 2104 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.



Model 200X Series



Model 2104 Series

Compressed Air Filters

1/4" and 1/2" Line Size Filters

Principal Specifications

| Model | A914 | A914A | 2002, 2003, 2004 (1) | 2104 (1) |
|---------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|
| Port Size | 1/4" NPT | 1/4" 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 | Zinc | Anod. Alum. | Anod. Alum. |
| Internals | Nylon | Nylon | Nylon | Nylon |
| Seals | Buna-N | Buna-N | Buna-N | Buna-N |
| Maximum Temperature | 120°F (49°C) | 220°F (104°C) | 130°F (54°C) (2) | 130°F (54°C) (2) |
| Maximum Pressure | 150 psig (10.3 barg) (3) | 250 psig (17.2 barg) (3) | 250 psig (17.2 barg) (3) | 250 psig (17.2 barg) (3) |
| Minimum Pressure | 5 psig (0.4 barg) (4) | 5 psig (0.4 barg) (4) | 15 psig (1.03 barg) (4) | 15 psig (1.03 barg) (4) |
| Shipping Weight | 0.5 lbs. (0.2 kg) | 0.5 lbs. (0.2 kg) | 2.0 lbs. (0.9 kg) | 2.5 lbs. (1.1 kg) |
| Dimensions | 1.5"W X 4.0"L (4cm X 10cm) | 1.5"W x 4.0"L (4cm X 10cm) | 3.3"W X 8.5"L (8cm X 20cm) | 3.3"W X 11.3"L (8cm X 28cm) |

Ordering Information

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

| Model | A914 | A914A (8) | 2002, 2003, 2004 (1) | 2104 (1) |
|---------------------------------|------------------|------------------|----------------------|-------------------|
| Differential Pressure Indicator | Not Included (7) | Not Included (7) | Included (7) | Included (7) |
| Replacement Filter Cartridges | | | | |
| No. Required | 1 | 1 | 1 | 1 |
| Box of 5 | 5/050-05-□ (5) | 5/050-05-□ (5) | 5/100-12-□ (5) | 5/100-18-□ (5) |
| Cartridges Box of 10 | 050-05-□ (5) | 050-05-□ (5) | 100-12-□ (5) | 100-18-□ (5) |
| CI Cartridge Box of 1 | — | — | CI-100-12-000 (5) | CI-100-25-000 (5) |

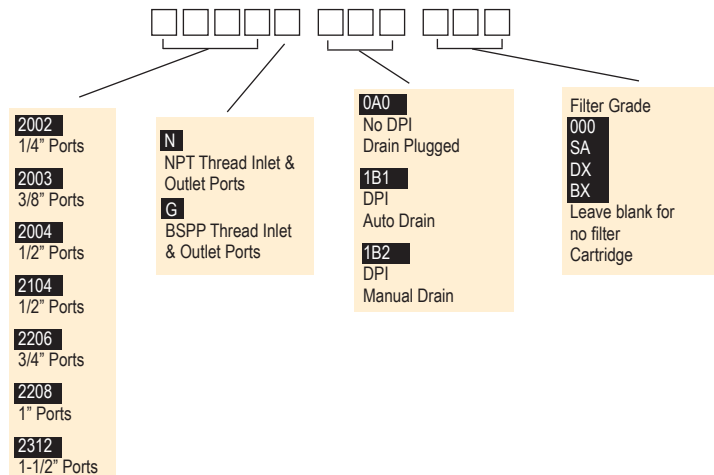
Notes:

- Lifetime (20 year) Warranty included. Contact your local representative for details.
- 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.
- Maximum pressure ratings are for temperatures to 130°F (54°C). Please consult factory for maximum pressure ratings at elevated temperatures.
- Required for proper operation of piston drain, overnight drain, or float drain.
- Indicate grade of filter cartridge by putting appropriate letter after ordering number. To order assembly with Type CI cartridges, add-000 after assembly number. Example: 2104N-0A0-000
- Automatic drains not supplied with assemblies containing Type CI cartridges.
- Differential Pressure Indicator (DPI) Kit may be ordered separately, P/N 41-071. DPI is sensitive in the range of 0-7 psi differential.
- Order A914D-X for overnight drain installed in the filter assembly.
Order A914P-X for piston drain installed in the filter assembly.
Order A914A-X for aluminum bowl and 250 psig rating.

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 = 2104N-1B1-DX.

*Consult Factory. Not all configurations are available.



Compressed Air Filters

3/4" to 2" Line Size Filters

Models 2206, 2208, 2312, and A15/80

The Model A15/80 filter assembly has 2" NPT inlet and outlet ports, an automatic float drain and differential pressure indicator installed. The Models 2206, 2208, and 2312 filter assemblies have 3/4", 1", and 1 1/2" NPT inlet and outlet ports, respectively; these models are also equipped with automatic drains, sight glasses, pressure relief valve, bayonet closures, and differential pressure indicators. Materials of construction are shown below.



Model 2312N



Model 2206N



Model A15/80

Compressed
Air Filters

Principal Specifications

| Model | 2206 (1) | 2208 (1) | 2312 (1) | A15/80 |
|---------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|
| 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 | Anod. Alum. | Anod. Alum. | Anod. Alum. | Steel |
| Internals | Aluminum | Aluminum | Aluminum | St. Steel |
| Seals | Buna-N | Buna-N | Buna-N | Buna-N |
| Maximum Temperature | 130°F (54°C) (2) | 130°F (54°C) (2) | 130°F (54°C) (2) | 130°F (54°C) (2) |
| Maximum Pressure | 250 psig (17.2 barg) (3) | 250 psig (17.2 barg) (3) | 250 psig (17.2 barg) (3) | 250 psig (17.2 barg) (3) |
| Minimum Pressure | 15 psig (1 barg) (4) | 15 psig (1 barg) (4) | 15 psig (1 barg) (4) | 15 psig (1 barg) (4) |
| Shipping Weight | 8 lbs. (3.6 kg) | 8 lbs. (3.6 kg) | 15 lbs. (6.8 kg) | 11 lbs. (5 kg) |
| Dimensions | 4"W X 13"L (10cm X 33cm) | 4"W X 13"L (10cm X 33cm) | 5.0"W X 17"L (13cm X 43cm) | 6.3"W X 28"L (16cm X 71cm) |

Ordering Information

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

| Model | 2206 | 2208 | 2312 | A15/80 |
|---------------------------------|----------------|----------------|----------------|----------------|
| Differential Pressure Indicator | Included (6) | Included (6) | Included (6) | Included (6) |
| Replacement Filter Cartridges | | | | |
| No. Required | 1 | 1 | 1 | 1 |
| Box of 5 | 5/150-19-□ (5) | 5/150-19-□ (5) | 5/200-35-□ (5) | 5/200-80-□ (5) |
| Box of 10 | 150-19-□ (5) | 150-19-□ (5) | 200-35-□ (5) | 200-80-□ (5) |
| CI Cartridge (Box of 1) | CI150-19-000 | CI150-19-000 | CI200-35-000 | CI200-80-000 |

Notes:

1 Lifetime (20 year) Warranty included. Contact your local representative for details.

2 Automatic Drain and Differential Pressure Indicator are limiting factors. For temperature capabilities to 220°F (104°C), order assemblies without Auto Drain and Differential Pressure Indicator.

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

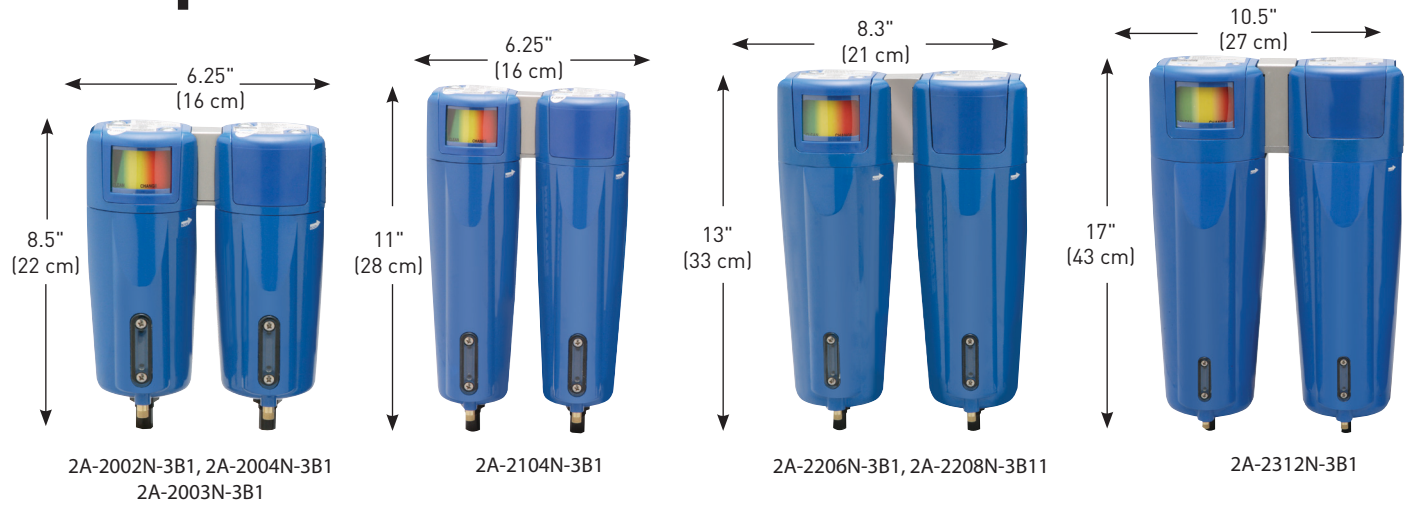
4 Required for proper operation of the float drain.

5 Indicate grade of filter cartridge by putting appropriate letter after ordering number (please refer to PK1-2). Example: 5/150-19-DX, 200-35-BX.

6 The DPI is sensitive in the range of 0-5 psi differential.

Compressed Air Filters

Compressed Air Filters



2A-2002N-3B1, 2A-2004N-3B1
2A-2003N-3B1

2A-2104N-3B1

2A-2206N-3B1, 2A-2208N-3B11

2A-2312N-3B1

Principal Specifications

| Model | 2A-2002, 2003, 2004 | 2A-2104 | 2A-2206 | 2A-2208 | 2A-2312 |
|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Port Size | 1/4" NPT | 1/2" NPT | 3/4" NPT | 1" NPT | 1.5" NPT |
| Materials of Construction | | | | | |
| Head | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| Bowl | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| Internals | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| Seals | Buna-N Food Grade | Buna-N Food Grade | Buna-N Food Grade | Buna-N Food Grade | Buna-N Food Grade |
| Maximum Temperature (1) | 130°F (54°C) | 130°F (54°C) | 130°F (54°C) | 130°F (54°C) | 130°F (54°C) |
| Maximum Pressure | 250 psig (17.2 barg) | 250 psig (17.2 barg) | 250 psig (17.2 barg) | 250 psig (17.2 barg) | 250 psig (17.2 barg) |
| Minimum Pressure (2) | 15 psig (1 barg) | 15 psig (1 barg) | 15 psig (1 barg) | 15 psig (1 barg) | 15 psig (1 barg) |
| Shipping Weight | 4.2 lbs. (1.9 kg) | 5 lbs. (2.3 kg) | 11.7 lbs. (5.3 kg) | 11.7 lbs. (5.3 kg) | 27 lbs. (12 kg) |
| Dimensions | 6.25"W X 8.5"L | 6.25"W X 11"L | 8.3"W X 13"L | 8.3"W X 13"L | 10.5"W X 17"L |

Notes:

- 1 Max. temperature with auto drain 2 Required for proper operation of auto drain.

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

| Assembly Ordering Information | | Replacement Cartridge | |
|-------------------------------|---------------------------------------|-----------------------|-----------|
| Model P/N | | Box of 5 | Box of 10 |
| 2A-2002N-3B1 | 1/4" 2-Stage (DX, BX) Filter Assembly | 5/100-12-DX | 100-12-DX |
| 2A-2003N-3B1 | 3/8" 2-Stage (DX, BX) Filter Assembly | 5/100-12-BX | 100-12-BX |
| 2A-2004N-3B1 | 1/2" 2-Stage (DX, BX) Filter Assembly | | |
| 2A-2104N-3B1 | 1/2" 2-Stage (DX, BX) Filter Assembly | 5/100-18-DX | 100-18-DX |
| | | 5/100-18-BX | 100-18-BX |
| 2A-2206N-3B1 | 3/4" 2-Stage (DX, BX) Filter Assembly | 5/150-19-DX | 150-19-DX |
| | | 5/150-19-BX | 150-19-BX |
| | | 5/150-19-SA | |
| 2A-2208N-3B1 | 1" 2-Stage (DX, BX) Filter Assembly | 5/150-19-DX | 150-19-DX |
| | | 5/150-19-BX | 150-19-BX |
| | | 5/150-19-SA | |
| 2A-2312N-3B1 | 1" 2-Stage (DX, BX) Filter Assembly | 5/200-35-DX | 200-35-DX |
| | | 5/200-35-BX | 200-35-BX |

- 4 2 each of mounting brackets are required for adequate support.
5 For CRN rated assemblies add a "C" to the Model Number. Example: 2A-C2104N-3B1

Compressed Air Filters

3" to 10" Line Size Filters

New LF/FF Series Multiple Cartridge Filter Assemblies

These filter assemblies provide high efficiency filtration of compressed air and other compressed gases at very high flow rates. With inlet and outlet ports accommodating 3" to 10" pipe sizes, the new LF/FF Series housings are capable of flow rates up to a maximum capacity of 37,350 SCFM (63,458 m³/h) at 100 psig (6.9 barg). The standard carbon steel units, which are generally in stock (through 6" line sizes), have pressure ratings up to 250 psig (17.2 barg).

All LF/FF series housings are ASME Code Stamped for the rated maximum operating pressure. All FF Series vessels have built-in legs for floor mounting. Selected models have swing bolt enclosures for easy access to the internals. The filter cartridges in all models are sealed by tightening the threaded retainer cap onto the rigid tie rod, ensuring a leak tight seal on both ends of the cartridge.

Each assembly is equipped with a carbon steel automatic float drain, differential pressure indicator, and a set of filter cartridges (except where noted).

HFC Savings

Annual electricity costs to operate a 100 HP Compressor can be as high as \$50,000. Pressure loss in the system adds to this expense. For a system operating at 100 psig (7 barg) that loses 2 psig (0.14 barg) of pressure through a filter, requires an additional 1% in operating energy costs (1).

Installing a single stage HFC Filter in place of a standard brand X filter, will reduce the pressure drop by 2+ psi (0.14 barg).

Based on a standard 100 HP (74.6 kW) compressor operating at a 65% load cycle, a 1% reduction in annual operating costs would be equal to \$542.00



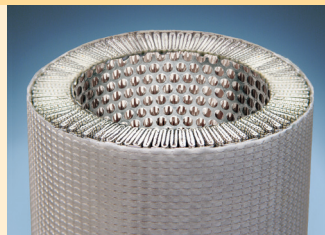
Compressed
Air Filters

NEW!

High Flow Coalescing Filter Media HFC Grade

Efficiency: 99.5% @ 0.5 micron

Balston's HFC media consists of two layers. The outer layer features a dense matrix of glass fibers. It provides highly efficient coalescing aerosol removal and very low pressure drop. The inner layer, or initial stage of filtration, effectively traps dirt particles, protecting and extending the life of the outer layer. A metal retainer is used for strength and stability. This media is used in bulk coalescing applications and when relatively high efficiency and low pressure drop are required.



High Efficiency Coalescing Media HEC Grade

Efficiency: 99.97% @ 0.01 micron

Air Flow: Inside to Outside

This coalescing element is composed of an epoxy saturated borosilicate glass micro-fiber tube. The HEC grade filter has a pleated cellulose inner layer as a built-in prefilter. This element is metal retained for added strength, and includes a synthetic fabric layer.

HEC filters are used when "total removal of liquid aerosols and suspended fines" is required. Because of its overall performance characteristics, this grade is most often recommended.

The HEC element is great prefilter protection for desiccant air dryers. This element prevents oil or varnish from coating the desiccant, while maintaining the dryer efficiency.

(1) Compressed Air Challenge, Doc # F9-1, April, 1998-Rev.0.

Calculation with Part-Load Operation (100 hp compressor)

Annual Electricity Costs = [(Motor full-load brake horsepower) x (0.746 kW/hp) x (Annual Hours of Operation) x (Electricity Cost in \$/kWh)] x [(Percent of time running fully loaded) + (0.30) x (Percent of time running unloaded)]

For example:

Full load motor efficiency = 90%

Motor full load bhp = 100 hp

Annual hours of operation = 8,760 hours (3-shift, continuous operation)

Runs 65% of the time fully loaded, 35% of the time unloaded

Unloaded operation consumes 30 percent of the electricity of fully loaded operation

Cost of electricity = \$0.10/kWh

Annual electricity costs = [(100 hp) x (0.746 hp/kW) x (8,760 hrs) x \$0.10/kWh] / 0.9] x [0.65 + (0.30) x (0.35)] = \$54,272.00

Compressed Air Filters

HFC MEDIA Max. Rated Flows (SCFM) at Various Operating Pressures (0.25 psi pressure drop)

| Model Number | 2 psig | 20 psig | 40 psig | 80 psig | 100 psig | 125psig | 150 psig | 175 psig | 200 psig | 220 psig | 250 psig |
|----------------|--------|---------|---------|---------|----------|---------|----------|----------|----------|----------|----------|
| ALN3-0128-HFC | 363 | 753 | 1187 | 2056 | 2490 | 3033 | 3575 | 4118 | 4661 | 5095 | 5746 |
| ALF3-0128-HFC | 363 | 753 | 1187 | 2056 | 2490 | 3033 | 3575 | 4118 | 4661 | 5095 | 5746 |
| ALF4-0125-HFC | 483 | 1004 | 1583 | 2741 | 3320 | 4044 | 4767 | 5491 | 6215 | 6793 | N/A |
| ALF6-0136-HFC | 725 | 1507 | 2375 | 4112 | 4980 | 6065 | 7151 | 8236 | 9322 | 10190 | N/A |
| ALF6-0328-HFC | 1088 | 2260 | 3562 | 6167 | 7470 | 9098 | 10726 | 12354 | 13983 | 15285 | N/A |
| AFN3-0128-HFC | 363 | 753 | 1187 | 2056 | 2490 | 3033 | 3575 | 4118 | 4661 | 5095 | 5746 |
| AFF3-0128-HFC | 363 | 753 | 1187 | 2056 | 2490 | 3033 | 3575 | 4118 | 4661 | 5095 | 5746 |
| AFF4-0125-HFC | 483 | 1004 | 1583 | 2741 | 3320 | 4044 | 4767 | 5491 | 6215 | 6793 | N/A |
| AFF6-0136-HFC | 725 | 1507 | 2375 | 4112 | 4980 | 6065 | 7151 | 8236 | 9322 | 10190 | 11493 |
| AFF6-0328-HFC | 1088 | 2260 | 3562 | 6167 | 7470 | 9098 | 10726 | 12354 | 13983 | 15285 | N/A |
| AFF8-0428-HFC | 1450 | 3013 | 4750 | 8223 | 9960 | 12131 | 14302 | 16472 | 18644 | 20380 | 22984 |
| AFF10-0728-HFC | 2538 | 5273 | 8312 | 14391 | 17430 | 21229 | 25028 | 28826 | 32627 | 35665 | 40222 |
| AFF12-1128-HFC | 3988 | 8286 | 13062 | 22614 | 27390 | 33360 | 39330 | 45298 | 51271 | 56045 | 63206 |
| AFF16-1528-HFC | 5438 | 11299 | 17812 | 30837 | 37350 | 45491 | 53632 | 61770 | 69915 | 76425 | 86190 |

HEC MEDIA Max. Rated Flows (SCFM) at Various Operating Pressures (1.5 psi pressure drop)

| Model Number | 2 psig | 20 psig | 40 psig | 80 psig | 100 psig | 125 psig | 150 psig | 175 psig | 200 psig | 220 psig | 250 psig |
|----------------|--------|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|
| ALN3-0128-HEC | 218 | 454 | 715 | 1238 | 1500 | 1827 | 2154 | 2481 | 2808 | 3069 | 3462 |
| ALF3-0128-HEC | 218 | 454 | 715 | 1238 | 1500 | 1827 | 2154 | 2481 | 2808 | 3069 | 3462 |
| ALF4-0125-HEC | 219 | 605 | 954 | 1651 | 2000 | 2436 | 2872 | 3308 | 3744 | 4092 | N/A |
| ALF6-0136-HEC | 437 | 908 | 1431 | 2477 | 3000 | 3654 | 4308 | 4962 | 5616 | 6139 | N/A |
| ALF6-0328-HEC | 654 | 1362 | 2145 | 3714 | 4500 | 5481 | 6462 | 7443 | 8424 | 9207 | N/A |
| AFN3-0128-HEC | 218 | 454 | 715 | 1238 | 1500 | 1827 | 2154 | 2481 | 2808 | 3069 | 3462 |
| AFF3-0128-HEC | 218 | 454 | 715 | 1238 | 1500 | 1827 | 2154 | 2481 | 2808 | 3069 | 3462 |
| AFF4-0125-HEC | 291 | 605 | 954 | 1651 | 2000 | 2436 | 2872 | 3308 | 3744 | 4092 | N/A |
| AFF6-0136-HEC | 437 | 908 | 1431 | 2477 | 3000 | 3654 | 4308 | 4962 | 5616 | 6139 | 6923 |
| AFF6-0328-HEC | 654 | 1362 | 2145 | 3714 | 4500 | 5481 | 6462 | 7443 | 8424 | 9207 | N/A |
| AFF8-0428-HEC | 872 | 1816 | 2860 | 4952 | 6000 | 7308 | 8616 | 9924 | 11232 | 12276 | 13848 |
| AFF10-0728-HEC | 1526 | 3178 | 5005 | 8666 | 10500 | 12789 | 15078 | 17367 | 19656 | 21483 | 24234 |
| AFF12-1128-HEC | 2398 | 4994 | 7865 | 13618 | 16500 | 20097 | 23694 | 27291 | 30888 | 33759 | 38082 |
| AFF16-1528-HEC | 3270 | 6810 | 10725 | 18570 | 22500 | 27405 | 32310 | 37215 | 42120 | 46035 | 51930 |

Compressed Air Filters

HFC MEDIA Max. Rated Flows (Nm³/hr) at Various Operating Pressures (0.017 barg pressure drop)

| Model Number | 0.2 barg | 1.4 barg | 3 barg | 4 barg | 7barg | 9 barg | 10 barg | 12 barg | 14 barg | 17 barg | 20 barg |
|----------------|----------|----------|--------|--------|-------|--------|---------|---------|---------|---------|---------|
| ALN3-0128-HFC | 649 | 1291 | 2147 | 2681 | 4286 | 5355 | 5890 | 6960 | 8029 | 9634 | 11238 |
| ALF3-0128-HFC | 649 | 1291 | 2147 | 2681 | 4286 | 5355 | 5890 | 6960 | 8029 | 9634 | 11238 |
| ALF4-0125-HFC | 865 | 1721 | 2862 | 3575 | 5714 | 7141 | 7854 | 9280 | 10706 | 12846 | N/A |
| ALF6-0136-HFC | 1299 | 2582 | 4293 | 5363 | 8572 | 10711 | 11781 | 13920 | 16059 | 19268 | N/A |
| ALF6-0336-HFC | 1947 | 3873 | 6440 | 8044 | 12857 | 16066 | 17671 | 20879 | 24088 | 28901 | N/A |
| AFN3-0128-HFC | 649 | 1291 | 2147 | 2681 | 4286 | 5355 | 5890 | 6980 | 8029 | 9634 | 11238 |
| AFF3-0128-HFC | 649 | 1291 | 2147 | 2681 | 4286 | 5355 | 5890 | 6980 | 8029 | 9634 | 11238 |
| AFF4-0125-HFC | 865 | 1721 | 2862 | 3575 | 5714 | 7141 | 7854 | 9280 | 10706 | 12846 | N/A |
| AFF6-0136-HFC | 1233 | 2532 | 4265 | 5348 | 8597 | 10763 | 11846 | 14012 | 16178 | 19427 | 22676 |
| AFF6-0328-HFC | 1947 | 3873 | 6440 | 8044 | 12857 | 16066 | 17671 | 20879 | 24088 | 28901 | 11238 |
| AFF8-0428-HFC | 2597 | 5164 | 8587 | 10726 | 17143 | 21422 | 23561 | 27839 | 32118 | 38535 | 44953 |
| AFF10-0728-HFC | 4519 | 9013 | 15005 | 18750 | 29984 | 37474 | 41219 | 48709 | 56199 | 67433 | 78668 |
| AFF12-1128-HFC | 7141 | 14200 | 23613 | 29496 | 47144 | 58909 | 64792 | 76557 | 88323 | 105971 | 123619 |
| AFF16-1528-HFC | 9738 | 19364 | 32199 | 40221 | 64287 | 80331 | 88353 | 104396 | 120440 | 144506 | 168572 |

HEC MEDIA Max. Rated Flows (Nm³/hr) at Various Operating Pressures (0.10 barg pressure drop)

| Model Number | 0.2 barg | 1.4 barg | 3 barg | 4 barg | 7barg | 9 barg | 10 barg | 12 barg | 14 barg | 17 barg | 20 barg |
|----------------|----------|----------|--------|--------|-------|--------|---------|---------|---------|---------|---------|
| ALN3-0128-HEC | 391 | 777 | 1293 | 1615 | 2582 | 3227 | 3549 | 4194 | 4839 | 5805 | 6772 |
| ALF3-0128-HEC | 391 | 777 | 1293 | 1615 | 2582 | 3227 | 3549 | 4194 | 4839 | 5805 | 6772 |
| ALF4-0125-HEC | 481 | 1001 | 1695 | 2128 | 3429 | 4295 | 4729 | 5596 | 6463 | 7763 | N/A |
| ALF6-0136-HEC | 782 | 1556 | 2587 | 3232 | 5165 | 6454 | 7099 | 8388 | 9677 | 11611 | N/A |
| ALF6-0328-HEC | 1172 | 2332 | 3879 | 4846 | 7747 | 9681 | 10648 | 12581 | 14515 | 17416 | N/A |
| AFN3-0128-HEC | 391 | 777 | 1293 | 1615 | 2582 | 3227 | 3549 | 4194 | 4839 | 5805 | 6772 |
| AFF3-0128-HEC | 391 | 777 | 1293 | 1615 | 2582 | 3227 | 3549 | 4194 | 4839 | 5805 | 6772 |
| AFF4-0125-HEC | 481 | 1001 | 1695 | 2128 | 3429 | 4295 | 4729 | 5596 | 6463 | 7763 | N/A |
| AFF6-0136-HEC | 782 | 1556 | 2587 | 3232 | 5165 | 6454 | 7099 | 8388 | 9677 | 11611 | 13544 |
| AFF6-0328-HEC | 1172 | 2332 | 3879 | 4846 | 7747 | 9681 | 10648 | 12581 | 14515 | 17416 | N/A |
| AFF8-0428-HEC | 1563 | 3110 | 5172 | 6462 | 10329 | 12908 | 14197 | 16775 | 19354 | 23221 | 27089 |
| AFF10-0728-HEC | 2735 | 5442 | 9052 | 11308 | 18076 | 22588 | 24844 | 29357 | 33869 | 40637 | 47405 |
| AFF12-1128-HEC | 4297 | 8552 | 14224 | 17770 | 28406 | 35497 | 39042 | 46133 | 53224 | 63860 | 74496 |
| AFF16-1528-HEC | 3449 | 6864 | 11416 | 14262 | 22798 | 28489 | 31335 | 37026 | 42717 | 51253 | 59790 |

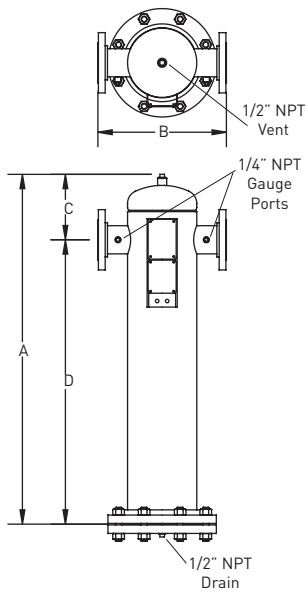
Housing Selection Chart

| Model Number | HFC Replacement Element | HEC Replacement Element | Port Size | Port Type | # of Elements | |
|----------------------------|-------------------------|-------------------------|-----------|-----------|---------------|--|
| LINE MOUNT VESSELS | | | | | | |
| ALN3-0128-H?C | 510-28- HFC | 510-28-HEC | 3 | NPT | 1 | |
| ALF3-0128-H?C | 510-28- HFC | 510-28- HEC | 3 | FLANGE | 1 | |
| ALF4-0125-H?C | 850-25- HFC | 850-25- HEC | 4 | FLANGE | 1 | |
| ALF6-0136-H?C | 850-36- HFC | 850-36- HEC | 6 | FLANGE | 1 | |
| ALF6-0328-H?C | 510-28- HFC | 510-28- HEC | 6 | FLANGE | 3 | |
| FLOOR MOUNT VESSELS | | | | | | |
| AFN3-0128-H?C | 510-28- HFC | 510-28- HEC | 3 | NPT | 1 | |
| AFF3-0128-H?C | 510-28- HFC | 510-28- HEC | 3 | FLANGE | 1 | |
| AFF4-0125-H?C | 850-25- HFC | 850-25- HEC | 4 | FLANGE | 1 | |
| AFF6-0136-H?C | 850-36- HFC | 850-36- HEC | 6 | FLANGE | 1 | |
| AFF6-0328-H?C | 510-28- HFC | 510-28- HEC | 6 | FLANGE | 3 | |
| AFF8-0428-H?C | 510-28- HFC | 510-28- HEC | 8 | FLANGE | 4 | |
| AFF10-0728-H?C | 510-28- HFC | 510-28- HEC | 10 | FLANGE | 7 | |
| AFF12-1128-H?C | 510-28- HFC | 510-28- HEC | 12 | FLANGE | 11 | |
| AFF16-1528-H?C | 510-28- HFC | 510-28- HEC | 16 | FLANGE | 15 | |

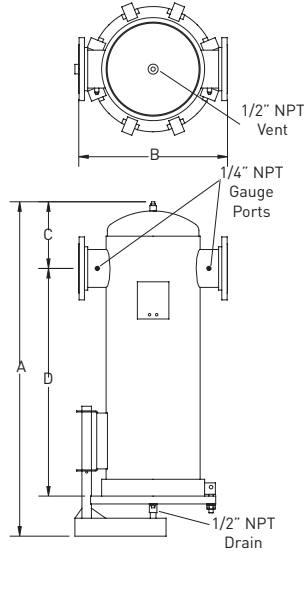
Compressed Air Filters

Drawings, Dimensions & Specifications

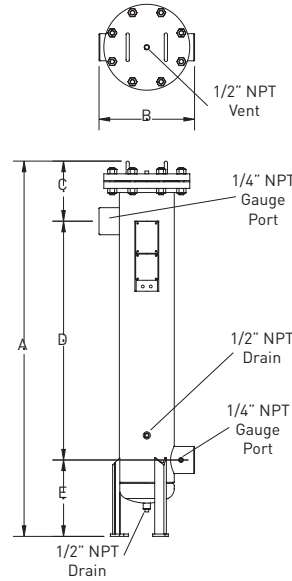
Compressed Air Filters



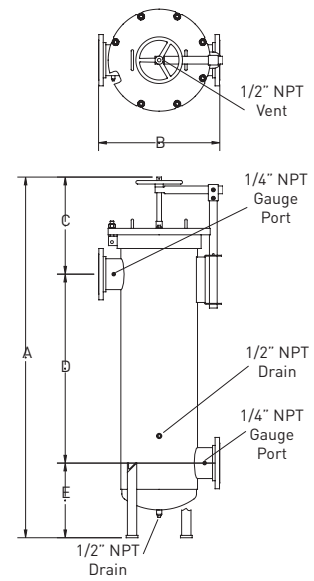
Refer to this drawing for:
ALN3
ALF3
ALF4
ALF6-0136



Refer to this drawing for:
ALF6-0328



Refer to this drawing for:
AFN3
AFF3
AFF4
AFF6-0136



Refer to this drawing for:
AFF6-0328
AFF8
AFF10
AFF12
AFF16

| Dimensions | A | B | C | D | E | Element Removal | Sump | Weight |
|------------|---------------|--------------|-------------|--------------|-------------|----------------------|------------------|--------------------|
| | | | | | | Clearance | Capacity | |
| | | | | | | Inches (centimeters) | gallons (liters) | pounds (kilograms) |
| ALN3 | 43.1 (109.5) | 15.0 (38.1) | 7.7 (19.5) | 35.4 (89.9) | — | 28 (71.1) | 0.81 (3) | 190 (86) |
| ALF3 | 43.1 (109.5) | 16.0 (40.6) | 7.7 (19.5) | 35.4 (89.9) | — | 28 (71.1) | 0.81 (3) | 190 (86) |
| ALF4 | 42.7 (108.5) | 20.0 (50.8) | 9.7 (24.6) | 33.0 (83.8) | — | 25 (63.5) | 2.0 (7) | 380 (173) |
| ALF6-0136 | 56.4 (143.3) | 20.0 (50.8) | 11.4 (29.0) | 45.0 (114.3) | — | 36 (91.4) | 2.0 (7) | 380 (173) |
| ALF6-0328 | 57.8 (146.8) | 26.0 (66.0) | 11.0 (27.9) | 39.8 (101.1) | — | 28 (71.1) | 2.0 (7) | 340 (155) |
| AFN3 | 58.9 (149.6) | 15.0 (38.1) | 9.4 (23.8) | 37.5 (95.2) | 12.0 (30.4) | 28 (71.1) | 1.1 (4) | 190 (86) |
| AFF3 | 58.9 (149.6) | 16.0 (40.6) | 9.4 (23.8) | 37.5 (95.2) | 12.0 (30.4) | 28 (71.1) | 1.2 (4) | 200 (91) |
| AFF4 | 63.3 (160.7) | 20.0 (50.8) | 12.3 (31.2) | 35.0 (88.9) | 16.0 (40.6) | 25 (63.5) | 4.2 (16) | 370 (168) |
| AFF6-0136 | 75.3 (191.2) | 20.0 (50.8) | 12.3 (31.2) | 47.0 (119.3) | 16.0 (40.6) | 36 (91.4) | 3.6 (14) | 410 (186) |
| AFF6-0328 | 77.3 (196.3) | 26.0 (66.0) | 20.8 (52.8) | 40.5 (102.8) | 16.0 (40.6) | 28 (71.1) | 5.0 (19) | 340 (155) |
| AFF8 | 87.3 (221.7) | 30.0 (76.2) | 25.8 (65.5) | 42.5 (108.0) | 19.0 (48.3) | 28 (71.1) | 8.7 (33) | 550 (250) |
| AFF10 | 96.0 (243.8) | 34.0 (86.3) | 28.5 (72.4) | 45.5 (115.5) | 22.0 (55.8) | 28 (71.1) | 14.8 (56) | 750 (341) |
| AFF12 | 101.0 (256.5) | 44.0 (111.7) | 27.5 (69.8) | 47.5 (120.6) | 26.0 (66.0) | 28 (71.1) | 25.5 (97) | 1300 (591) |
| AFF16 | 112.0 (284) | 52.0 (132.0) | 32.0 (81.3) | 50.0 (127.0) | 30.0 (76.2) | 28 (71.1) | 56.2 (213) | 1700 (773) |

Materials of Construction

Body: Carbon Steel
Paint: Epoxy Enamel (Gray)
Internals: Epoxy powder painted carbon steel
Seals: Inorganic flange gasket (single element vessels)
 Fluorocarbon o-ring (multi element vessels)
Internal Coating: Epoxy enamel

Specifications

Max Pressure: Up to 220-250 PSIG (15.2-17.2 barg)
 (Consult Flow Chart)
Max Temperature: 225°F (107°C)
Meets A.S.M.E. Code, Section VIII, Division 1:
Note: Consult factory for special requirements

Compressed Air Filters

Balston High Pressure Compressed Air Filters

Balston high pressure compressed air filters offer exceptionally high efficiency coalescing filtration of compressed air at high flow rates. The housings are ASME Code stamped to 665 psig.

Since the coalesced liquid drains continuously from the filter cartridges as rapidly as it is collected, the filters have an unlimited capacity for liquid removal.

Each filter cartridge is mounted on a rigid permanent filter holder with a vibration-resistant removable tube retainer. The filter cartridge is self gasketing, and the filter holder is designed so that a perfect seal is easily made, even when the tube is replaced by an operator unfamiliar with the equipment.

AKH housings are available with inlet and outlet ports covering the range from 3" to 10" pipe sizes.



Compressed Air Filters

| Model (5) | AKH-0280 | AKH-0480 | AKH-0880 | AKH-1480 | AKH-2280 |
|---------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Port Size | 3" FLG | 4" FLG | 6" FLG | 8" FLG | 10" FLG |
| Materials of Construction | | | | | |
| Vessel | Carbon Steel | Carbon Steel | Carbon Steel | Carbon Steel | Carbon Steel |
| Filter Cartridge Holders | 303 St. Steel | 303 St. Steel | 303 St. Steel | 303 St. Steel | 303 St. Steel |
| Seals | Buna-N | Buna-N | Buna-N | Buna-N | Buna-N |
| Maximum Temperature | 250°F (121°C) (1) | 250°F (14°C) (1) | 250°F (121°C) (1) | 250°F (121°C) (1) | 250°F (121°C) (1) |
| Maximum Pressure | 665 psig (45.9 barg) (2) | 665 psig (45.9 barg) (2) | 665 psig (45.9 barg) (2) | 665 psig (45.9 barg) (2) | 665 psig (45.9 barg) (2) |
| Minimum Pressure | 10 psig (0.69 barg) | 10 psig (0.69 barg) | 10 psig (0.69 barg) | 10 psig (0.69 barg) | 10 psig (0.69 barg) |
| Shipping Weight | 150 lbs. (68 kg) | 270 lbs. (123 kg) | 560 lbs. (254 kg) | 1120 lbs. (508 kg) | 1430 lbs. (649 kg) |
| Dimensions | 16"W X 41"H (41cm X 104cm) | 21"W X 40"H (53cm X 102cm) | 25"W X 43"H (64cm X 109cm) | 34"W X 54"H (86cm X 137cm) | 36"W X 57"H (91cm X 145cm) |
| Flange Center Line to Floor Dimension | 7.75" (20cm) | 6.25" (16cm) | 8.5" (22cm) | 16.25" (41cm) | 17.25" (44cm) |
| Flange to Flange Dimension | 15.63" (40cm) | 20.63" (52cm) | 24.75" (63cm) | 34" (86cm) | 36" (91cm) |

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

| Model (3) | AKH-0280-□ | AKH-0480-□ | AKH-0880-□ | AKH-1480-□ | AKH-2280-□ |
|-------------------------------|----------------|----------------|----------------|----------------|----------------|
| Replacement Filter Cartridges | | | | | |
| No. Required | 2 | 4 | 8 | 14 | 22 |
| Box of 5 | 5/200-80-□ (4) | 5/200-80-□ (4) | 5/200-80-□ (4) | 5/200-80-□ (4) | 5/200-80-□ (4) |
| Box of 10 | 200-80-□ (4) | 200-80-□ (4) | 200-80-□ (4) | 200-80-□ (4) | 200-80-□ (4) |
| CI Cartridge (Box of 1) | CI-200-80-000 | CI-200-80-000 | CI-200-80-000 | CI-200-80-000 | CI-200-80-000 |

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 Vessel is ASME Section VIII, Div. 1 code stamped for rated pressure.

3 Differential Pressure Indicator and Automatic Drain are not included with AKH Assemblies, or with assemblies containing Type CI Cartridges.

4 To order filter cartridges, indicate grade of filter cartridge by placing appropriate letter cartridge designation after the last digit. Example: 200-80-DX.




Compressed Air Filters

Quick Select Guide 2" - 6" Port Size

Compressed Air Filters

| Model # | Mount | Port Size | Port Type | Max Temp | Max Press | F # of Elements | A Element Size |
|-----------------|-------|-----------|-----------|----------|-----------|---------------------------|--------------------------|
| A15/80-[__] | Line | 2 | NPT | 130 | 250 | 1 | 200-80 |
| 15/80S6-[__] | Line | 2 | NPT | 400 | 800 | 1 | 200-80 |
| A15/80S6-SA | Line | 2 | NPT | 400 | 800 | 1 | 200-80 |
| AKSB-0280-2-SA | Floor | 2 | Flange | 200 | 200 | 2 | 200-80 |
| AHC-0180-[__] | Floor | 2 | Flange | 130 | 1440 | 1 | 200-80 |
| ALN3-0128-[___] | Line | 3 | NPT | 225 | 250 | 1 | 510-28 |
| AFN3-0128-[___] | Floor | 3 | NPT | 225 | 250 | 1 | 510-28 |
| AKS-0280-[__] | Floor | 3 | Flange | 200 | 200 | 2 | 200-80 |
| AKSB-0280-SA | Floor | 3 | Flange | 200 | 200 | 2 | 200-80 |
| ALF3-0128-[___] | Line | 3 | Flange | 225 | 250 | 1 | 510-28 |
| AFF3-0128-[___] | Floor | 3 | Flange | 225 | 250 | 1 | 510-28 |
| AKC-0280-[__] | Floor | 3 | Flange | 230 | 250 | 2 | 200-80 |
| AKH-0280-[__] | Floor | 3 | Flange | 250 | 665 | 2 | 200-80 |
| AHC-0280-[__] | Floor | 3 | Flange | 130 | 1440 | 2 | 200-80 |
| AKS-0480-[__] | Floor | 4 | Flange | 200 | 200 | 4 | 200-80 |
| AKSB-0480-SA | Floor | 4 | Flange | 200 | 200 | 4 | 200-80 |
| ALF4-0125-[___] | Line | 4 | Flange | 225 | 220 | 1 | 850-25 |
| AFF4-0125-[___] | Floor | 4 | Flange | 225 | 220 | 1 | 850-25 |
| AKC-0480-[__] | Floor | 4 | Flange | 230 | 250 | 4 | 200-80 |
| AKH-0480-[__] | Floor | 4 | Flange | 250 | 665 | 4 | 200-80 |
| AHC-0480-[__] | Floor | 4 | Flange | 130 | 1440 | 4 | 200-80 |
| AKS-0880-[__] | Floor | 6 | Flange | 200 | 200 | 8 | 200-80 |
| AKSB-0880-SA | Floor | 6 | Flange | 200 | 200 | 8 | 200-80 |
| AKC-0880-[__] | Floor | 6 | Flange | 250 | 200 | 8 | 200-80 |
| ALF6-0136-[___] | Line | 6 | Flange | 225 | 220 | 1 | 850-36 |
| ALF6-0328-[___] | Line | 6 | Flange | 225 | 220 | 3 | 510-28 |
| AFF6-0328-[___] | Floor | 6 | Flange | 225 | 220 | 3 | 510-28 |
| AFF6-0136-[___] | Floor | 6 | Flange | 225 | 250 | 1 | 850-36 |
| AKH-0880-[__] | Floor | 6 | Flange | 250 | 665 | 8 | 200-80 |
| AHC-0880-[__] | Floor | 6 | Flange | 130 | 1440 | 8 | 200-80 |

[__] = Element Grade (B on Filter Element Selection Chart)

| |  15 / 80 15 / 80S | |  AFF, AFN, ALN, ALF | |  AKC | |
|--------------------------|---|--------------|---|--|---|--|
| Housing Material: | Alum / Steel | Stain. Steel | Carbon Steel | | Carbon Steel | |
| Port Size: | 2" NPT | | 3" NPT - 16" Flange | | 3" - 10" Flange | |
| Mounting: | Line | | Line or Floor | | Floor | |
| Closure Type: | Nut / Stud | | Bolt / Nut | | Swing Bolts | |
| Max Press: | 250 psig | 800 psig | 200 - 250 psig | | 200 - 250 psig | |
| Max Temp (°F): | 130 | 400 | 230 - 250 | | 230 - 250 | |
| Auto Drain: | Yes | No | Yes | | Yes | |
| DPI: | Yes | No | Yes | | Yes | |

Compressed Air Filters

Quick Select Guide 2" - 6" Port Size

| Housing Material | Closure Type | Auto Drain Included | DPI Gauge | ASME | Model # |
|------------------|--------------|---------------------|-----------|-------------|---------------------|
| Alum/Steel | Bolt | Yes | Yes | Exempt | A15/80-[_ _] |
| 316 SS | Bolt | No | No | Exempt | 15/80S6-[_ _] |
| 316 SS | Bolt | No | No | Exempt | A15/80S6-SA |
| 316 SS | Swing Bolts | No | No | VIII, Div 1 | AKSB-0280-2-SA |
| Carbon Steel | Bolt/Nut | No | No | VIII, Div 1 | AHC-0180-[_ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | ALN3-0128-[_ _ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | AFN3-0128-[_ _ _] |
| 316 SS | Swing Bolts | Yes | No | VIII, Div 1 | AKS-0280-[_ _] |
| 316 SS | Swing Bolts | No | No | VIII, Div 1 | AKSB-0280-SA |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | ALF3-0128-[_ _ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | AFF3-0128-[_ _ _] |
| Carbon Steel | Swing Bolts | Yes | Yes | VIII, Div 1 | AKC-0280-[_ _] |
| Carbon Steel | Swing Bolts | No | No | VIII, Div 1 | AKH-0280-[_ _] |
| Carbon Steel | Bolt/Nut | No | No | VIII, Div 1 | AHC-0280-[_ _] |
| 316 SS | Swing Bolts | Yes | No | VIII, Div 1 | AKS-0480-[_ _] |
| 316 SS | Swing Bolts | No | No | VIII, Div 1 | AKSB-0480-SA |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | ALF4-0125-[_ _ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | AFF4-0125-[_ _ _] |
| Carbon Steel | Swing Bolts | Yes | Yes | VIII, Div 1 | AKC-0480-[_ _] |
| Carbon Steel | Swing Bolts | No | No | VIII, Div 1 | AKH-0480-[_ _] |
| Carbon Steel | Bolt/Nut | No | No | VIII, Div 1 | AHC-0480-[_ _] |
| 316 SS | Swing Bolts | Yes | No | VIII, Div 1 | AKS-0880-[_ _] |
| 316 SS | Swing Bolts | No | No | VIII, Div 1 | AKSB-0880-SA |
| Carbon Steel | Swing Bolts | Yes | Yes | VIII, Div 1 | AKC-0880-[_ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | ALF6-0136-[_ _ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | ALF6-0328-[_ _ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | AFF6-0328-[_ _ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | AFF6-0136-[_ _ _] |
| Carbon Steel | Swing Bolts | No | No | VIII, Div 1 | AKH-0880-[_ _] |
| Carbon Steel | Bolt/Nut | No | No | VIII, Div 1 | AHC-0880-[_ _] |



AKH

| |
|-----------------|
| Carbon Steel |
| 3" - 10" Flange |
| Floor |
| Swing Bolts |
| 665 psig |
| 250 |
| No |
| No |



AHC

| |
|----------------|
| Carbon Steel |
| 2" - 8" Flange |
| Floor |
| Bolt / Nut |
| 1440 psig |
| 330 |
| No |
| No |



AKS

| |
|-----------------|
| 316 SS |
| 2" - 10" Flange |
| Floor |
| Swing Bolts |
| 200 psig |
| 200 |
| Yes |
| No |

[_ _] = Element Grade (B on Filter Element Selection Chart)

- :Housing Material**
- :Port Size**
- :Mounting**
- :Closure Type**
- :Max Press**
- :Max Temp (°F)**
- :Auto Drain**
- :DPI**

Compressed Air Filters

Quick Select Guide 8" - 16" Port Size

Compressed Air Filters

| Model # | Mount | Port Size | Port Type | Max Temp | Max Press | F # of Elements | A Element Size |
|-------------------|-------|-----------|-----------|----------|-----------|---------------------------|--------------------------|
| AKS-1480-[__] | Floor | 8 | Flange | 200 | 200 | 14 | 200-80 |
| AKSB-1480-SA | Floor | 8 | Flange | 200 | 200 | 14 | 200-80 |
| AKC-1480-[__] | Floor | 8 | Flange | 250 | 200 | 14 | 200-80 |
| AFF8-0428-[____] | Floor | 8 | Flange | 225 | 250 | 4 | 510-28 |
| AKH-1480-[__] | Floor | 8 | Flange | 250 | 665 | 14 | 200-80 |
| AHC-1480-[__] | Floor | 8 | Flange | 130 | 1440 | 14 | 200-80 |
| AKS-2280-[__] | Floor | 10 | Flange | 200 | 200 | 22 | 200-80 |
| AKSB-2280-SA | Floor | 10 | Flange | 200 | 200 | 22 | 200-80 |
| AKC-2280-[__] | Floor | 10 | Flange | 250 | 200 | 22 | 200-80 |
| AFF10-0728-[____] | Floor | 10 | Flange | 225 | 250 | 7 | 510-28 |
| AKH-2280-[__] | Floor | 10 | Flange | 250 | 665 | 22 | 200-80 |
| AFF12-1128-[____] | Floor | 12 | Flange | 225 | 250 | 11 | 510-28 |
| AFF16-1528-[____] | Floor | 16 | Flange | 225 | 250 | 15 | 510-28 |

[__] = Element Grade (B on Filter Element Selection Chart)

| G | |
|----------------|-------------------|
| Gas | Correction Factor |
| Air | 1 |
| Hydrogen | 3.8 |
| Nitrogen | 1 |
| Natural Gas | 1.3 |
| Carbon Dioxide | 0.81 |
| Helium | 2.7 |
| Methane | 1.35 |
| Propane | 0.81 |

| | 15 / 80 | 15 / 80S | AFF, AFN, ALN, ALF | AKC |
|--------------------------|--------------|--------------|---------------------|-----------------|
| Housing Material: | Alum / Steel | Stain. Steel | Carbon Steel | Carbon Steel |
| Port Size: | 2" NPT | | 3" NPT - 16" Flange | 3" - 10" Flange |
| Mounting: | Line | | Line or Floor | Floor |
| Closure Type: | Nut / Stud | | Bolt / Nut | Swing Bolts |
| Max Press: | 250 psig | 800 psig | 200 - 250 psig | 200 - 250 psig |
| Max Temp (°F): | 130 | 400 | 225 | 230 - 250 |
| Auto Drain: | Yes | No | Yes | Yes |
| DPI: | Yes | No | Yes | Yes |

Instructions for calculating housing / element flow:

- 1.) Select housing based on line size, temperature, and pressure
- 2.) Determine element size (A) from table above
- 3.) Determine desired filtration efficiency (C)
- 4.) Determine operating pressure (D)
- 5.) Determine the number elements in the selected housing (F)
- 6.) Look up the flow of each element (E) in the table above by correlating A, C, D
- 7.) Multiply the flow (E) above by the number of elements in the housing (F) to determine the air flow for the housing
- 8.) Multiply the result of #7 (above) by the correction factor (G) for the gas being filtered


| A Element Size | B Element Grade | C Filtration Efficiency | Pressure Drop at Rated Flow PSIG | D 40 psig | |
|--------------------------|--|-----------------------------------|----------------------------------|---------------------|-------|
| | | | | MM SCFD | SCFM |
| 200-80 | DX | 93% @ .01m | 2.0 | 0.8 | 595 |
| | BX | 99.99% @ .01m | 2.0 | 0.2 | 150 |
| | CI ¹ | Activated Carbon | 3.0 | 0.1 | 77 |
| | SA | 99.9999% @ .01m | 3.0 | 0.2 | 150 |
| 510-28 | HEC | 99.97% @ .01m | 1.5 | 1.0 | 715 |
| | HFC | 99.5% @ .05m | .25 | 1.7 | 1,187 |
| 850-25 | HEC | 99.97% @ .01m | 1.5 | 1.4 | 954 |
| | HFC | 99.5% @ .05m | .25 | 2.3 | 1,583 |
| 850-36 | HEC | 99.97% @ .01m | 1.5 | 2.1 | 1,431 |
| | HFC | 99.5% @ .05m | .25 | 3.4 | 2,375 |
| Note: | Activated carbon adsorption element 0.003 ppm (w) max remaining oil content w/inlet challenge 0.05 ppm | | | E | |

Compressed Air Filters

Quick Select Guide 8" - 16" Port Size


| Housing Material | Closure Type | Auto Drain Included | DPI Gauge | ASME | Model # |
|------------------|--------------|---------------------|-----------|-------------|----------------------|
| 316 SS | Swing Bolts | Yes | No | VIII, Div 1 | AKS-1480-[_ _] |
| 316 SS | Swing Bolts | No | No | VIII, Div 1 | AKSB-1480-SA |
| Carbon Steel | Swing Bolts | Yes | Yes | VIII, Div 1 | AKC-1480-[_ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | AFF8-0428-[_ _ _] |
| Carbon Steel | Swing Bolts | No | No | VIII, Div 1 | AKH-1480-[_ _] |
| Carbon Steel | Bolt/Nut | No | No | VIII, Div 1 | AHC-1480-[_ _] |
| 316 SS | Swing Bolts | Yes | No | VIII, Div 1 | AKS-2280-[_ _] |
| 316 SS | Swing Bolts | No | No | VIII, Div 1 | AKSB-2280-SA |
| Carbon Steel | Swing Bolts | Yes | Yes | VIII, Div 1 | AKC-2280-[_ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | AFF10-0728-[_ _ _] |
| Carbon Steel | Swing Bolts | No | No | VIII, Div 1 | AKH-2280-[_ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | AFF12-1128-[_ _ _] |
| Carbon Steel | Bolt/Nut | Yes | Yes | VIII, Div 1 | AFF16-1528-[_ _ _] |

[_ _] = Element Grade (B on Filter Element Selection Chart)




AKH

| |
|-----------------|
| Carbon Steel |
| 3" - 10" Flange |
| Floor |
| Swing Bolts |
| 665 psig |
| 250 |
| No |
| No |



AHC

| |
|----------------|
| Carbon Steel |
| 2" - 8" Flange |
| Floor |
| Bolt / Nut |
| 1440 psig |
| 130 |
| No |
| No |



AKS

| |
|-----------------|
| 316 SS |
| 2" - 10" Flange |
| Floor |
| Swing Bolts |
| 200 psig |
| 200 |
| Yes |
| No |

- :Housing Material**
- :Port Size**
- :Mounting**
- :Closure Type**
- :Max Press**
- :Max Temp (°F)**
- :Auto Drain**
- :DPI**

| D | | | | | | | | | | | |
|----------|-------|----------|-------|---|-------|----------|-------|-----------|--------|-----------|--------|
| 100 psig | | 200 psig | | 400 psig | | 600 psig | | 1000 psig | | 1400 psig | |
| MM SCFD | SCFM | MM SCFD | SCFM | MM SCFD | SCFM | MM SCFD | SCFM | MM SCFD | SCFM | MM SCFD | SCFM |
| 1.8 | 1,250 | 3.3 | 2,340 | 6.5 | 4,515 | 9.4 | 6,700 | 15.9 | 11,050 | 22.2 | 15,400 |
| 0.4 | 310 | 0.8 | 580 | 1.6 | 1,120 | 2.4 | 1,660 | 4.0 | 2,750 | 5.5 | 3,850 |
| 0.2 | 160 | 0.4 | 300 | 0.8 | 575 | 1.2 | 855 | 2.0 | 1,400 | 2.9 | 1,980 |
| 0.4 | 310 | 0.8 | 580 | 2.0 | 1,120 | 2.0 | 1,660 | 4.0 | 2,750 | 6.0 | 3,850 |
| 2.2 | 1,500 | 3.6 | 2,481 | Flow per single element for air (multiply times number of elements in housing) | | | | | | | |
| 3.6 | 2,490 | 6.7 | 4,661 | | | | | | | | |
| 2.9 | 2,000 | 5.4 | 3,744 | | | | | | | | |
| 4.8 | 3,320 | 8.9 | 6,215 | | | | | | | | |
| 4.3 | 3,000 | 8.1 | 5,616 | | | | | | | | |
| 7.2 | 4,980 | 13.4 | 9,322 | | | | | | | | |
| E | | | | | | | | | | | |

Stainless Steel Compressed Air Filters for Harsh Environments

Balston Stainless Steel Compressed Air Filter Assemblies:

Balston Compressed Air Filters protect your equipment and delicate instruments from the dirt, water, and oil usually found in compressed air and other gases. These filters will remove 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. Select 1/4" to 1" line filters are constructed of 304 stainless steel and are designed to hold up to the harshest environments.



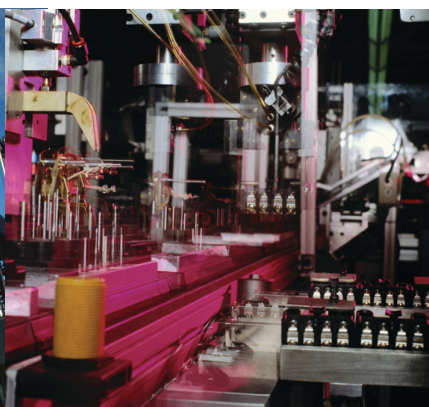
Product Features:

- All 304 stainless steel construction, ideal standing up to aggressive washdown chemicals
- Remove 99.99% of 0.01 micron particles of oil, water, and dirt from compressed air and other gases
- For Sterile Air Requirements:
- USDA accepted for use in federally inspected meat and poultry plants
- Low pressure drop
- Continuously trap and drain liquids
- Remove trace oil vapor with adsorbent cartridges

Petrochemical



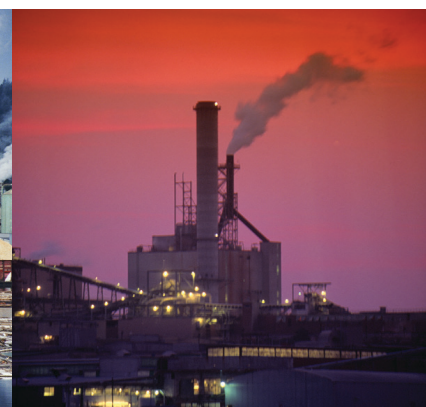
Textiles



Pulp and Paper



Refineries



Compressed Air Filters

Stainless Steel Filters for Harsh Environments

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 type CI cartridge. |

Physical Properties, Microfibre Filter Cartridges

| | |
|---|--|
| Temperature Range | -40°F to 300°F (-40°C - 149°C) |
| Maximum Pressure Differential Across Filter, Inside-to-Outside Flow: | 100 psi (7 barg) |
| Materials of Construction | Borosilicate glass microfibers with fluorocarbon resin binder. Resistant to water, all hydrocarbon and synthetic lubricants. |

Retention Efficiency

| Grade | Efficiency for 0.01 Micron Particles and Droplets |
|-------|---|
| DX | 93% |
| BX | 99.99% |
| CI | 99.99% Adsorption |
| SA | 99.9999% |

Balston Filter Cartridges

Balston provides two grades of coalescing filter cartridges, Grade DX and Grade BX. Singly or in tandem, these filters satisfy all requirements for removing liquid and solid contaminants from compressed air. Balston also has an activated carbon adsorbent CI-type cartridge for the removal of trace oil vapors from a compressed air line. The activated carbon cartridge is Grade 000.

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).

How to Order the Filter Assembly

- 1 Build your own custom filter assembly using the guideline matrix on Page 16 and specify your model number. Example: 1/2" filter with DPI and Auto Drain with Grade DX Filter = 6004N-01A-DX.
- 2 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.

Compressed Air Filters

Stainless Steel Filters for Harsh Environments

Compressed
Air Filters

Models 6102, 6002, 6904

The 6102 and 6002 series models are 1/4" line size filters designed for lower flow systems and installations with space limitations. It is offered with two drain options, a manual drain or an auto float drain for maintenance free operation. The model 6904 offers 1/2" inlet and outlet connections, for applications requiring 1/2" pipe with space limitation requirements.



Models 6102, 6002, 6904

Model 6004

Model 6004

The 6004 series models are 1/2" line size filters designed for moderate flow rate systems. This series has increased liquid holding capacity which safeguards sensitive end use points from system upsets and morning start ups.

Models 6006 and 6008

The 6006 and 6008 series models are 3/4" and 1" line size filters respectively. These are designed for high flow rate systems servicing multiple end use points. These are also offered with a high capacity auto float drain option.

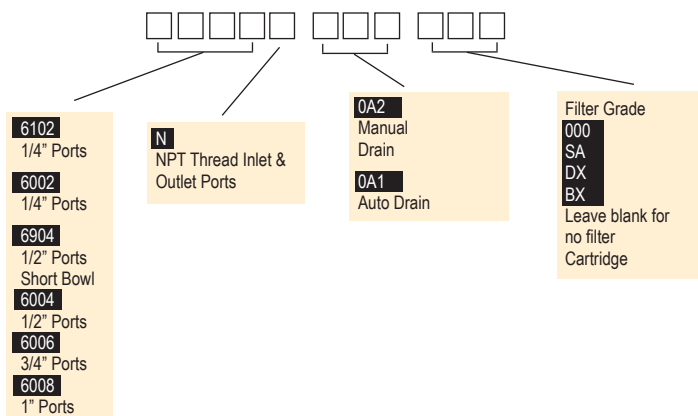


Models 6006 and 6008

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 Auto Drain and Grade DX Filter = 6004N-0A1-DX.

*Consult Factory. Not all configurations are available.



Compressed Air Filters

Stainless Steel Filters for Harsh Environments

Flow Rates

| Filter Housing Model | Port Size | Filter Cartridge Grade | Flow rates SCFM (Nm ³ /hr), at 7 psi drop at indicated line pressure (over 3 stages). Refer to Principal Specification Charts in each product data sheet for maximum pressure rating of each housing | | | | | | | | |
|----------------------|-----------|------------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|
| | | | 2 (0.14) | 20 (1.4) | 40 (3) | 80 (6) | 100 (7) | 125 (9) | 150 (10) | 200 (14) | 250 (17) |
| 6102N | 1/4" | DX | 3.5 (6) | 8 (13) | 11 (18) | 20 (33) | 25 (42) | 30 (50) | 36 (60) | --- | --- |
| | | BX | 1 (2) | 2 (3) | 3.5 (6) | 5.7 (10) | 6.8 (11) | 8 (13) | 10 (17) | --- | --- |
| 6002N | 1/4" | DX | 9 (15) | 19 (32) | 39 (66) | 51 (87) | 63 (107) | 76 (129) | 90 (153) | 117 (199) | 145 (246) |
| 6904N | 1/2" | BX | 3 (5) | 8 (14) | 11 (19) | 21 (36) | 25 (42) | 31 (53) | 36 (61) | 47 (80) | 58 (99) |
| | | CI | 2 (3) | 5 (8) | 7 (12) | 12 (20) | 15 (25) | 18 (31) | 22 (37) | 28 (48) | 35 (59) |
| | | SA | --- | 8 (14) | 11 (19) | 21 (36) | 25 (42) | 31 (53) | 36 (61) | --- | --- |
| 6004N | 1/2" | DX | 19 (32) | 41 (70) | 65 (110) | 113 (192) | 137 (233) | 166 (181) | 196 (333) | 257 (437) | 316 (537) |
| | | BX | 9 (15) | 19 (32) | 30 (51) | 51 (87) | 63 (107) | 76 (129) | 90 (153) | 117 (199) | 145 (246) |
| | | CI | 6 (10) | 12 (20) | 19 (32) | 32 (54) | 39 (66) | 48 (82) | 56 (95) | 73 (124) | 90 (153) |
| | | SA | --- | 19 (32) | 30 (51) | 51 (87) | 63 (107) | 76 (129) | 90 (153) | --- | --- |
| 6006N | 3/4" | DX | 37 (63) | 78 (133) | 123 (209) | 214 (364) | 259 (440) | 315 (535) | 371 (630) | 484 (822) | 596 (1013) |
| | | BX | 10 (17) | 21 (36) | 34 (58) | 56 (95) | 70 (119) | 85 (144) | 101 (172) | 131 (223) | 162 (275) |
| | | CI | 8 (14) | 16 (27) | 26 (44) | 44 (75) | 53 (90) | 65 (110) | 76 (129) | 99 (168) | 122 (207) |
| | | SA | --- | 21 (36) | 34 (58) | 56 (95) | 70 (119) | 85 (144) | 101 (172) | --- | --- |
| 6008N | 1" | DX | 55 (93) | 115 (195) | 181 (308) | 314 (533) | 380 (646) | 463 (787) | 546 (928) | 711 (1208) | 877 (1490) |
| | | BX | 11 (19) | 23 (39) | 37 (63) | 64 (109) | 77 (131) | 94 (160) | 111 (189) | 144 (245) | 178 (302) |
| | | CI | 10 (17) | 20 (34) | 32 (54) | 56 (95) | 67 (114) | 82 (139) | 96 (163) | 125 (212) | 154 (262) |
| | | SA | --- | 23 (34) | 37 (70) | 64 (116) | 77 (144) | 94 (177) | 111 (209) | --- | --- |

Sterile Air Filters

Balston grade SA filter cartridges, rated at 99.9999+% efficiency for 0.01 micron particles, is at least 30 times better than the accepted standard for sterile air filters developed by independent research organizations in the U.S. and U.K. (request bulletin TI-105A for a detailed discussion on Balston filter efficiency rating procedure, and Bulletin TI-935 for an independent test report on Balston Sterile Air Filters). Balston Sterile Air Filters are in full compliance with the requirements of the FDA.

Steam Sterilization Procedure

In installations where the sterile air filter requires steam sterilization, we recommend the following procedures:

The steam sterilization pressure should not exceed 60 psig (4 barg). Preferably, it should be held to 40 psig (3 barg) or less. A typical sterilization cycle is 30 psig (2 barg) steam for 30 minutes. Steaming time can be increased as desired without harm to the filter cartridges. The steam flow should not exceed the normal air flow for the unit. To ensure no buildup of condensate in the housing, condensate should be drained from the filter by a condensate drain valve during the steaming process. The cleanliness of the steam is an important factor influencing the life of the Sterile Air Filter cartridges. Parker strongly recommends using Model 23 Steam Filters to ensure optimum operating life. When autoclaving, the Grade SA filter cartridges will tolerate temperatures to 300°F (149°C) in dry gas. Viton or other heat resistant seals should be used in the housing.

Compressed Air Filters

Stainless Steel Filters for Harsh Environments

Principal Specifications

| Model | 6102 | 6002 | 6904 | 6004 | 6006 | 6008 |
|---------------------------|-----------------------------------|---------------------------|---------------------------|----------------------------|-----------------------------|-----------------------------|
| Port Size | 1/4" NPT | 1/4" NPT | 1/2" NPT | 1/2" NPT | 3/4" NPT | 1" NPT |
| Materials of Construction | | | | | | |
| Head | 316 Stainless Steel | 304 Stainless Steel | | | | |
| Bowl | 316 Stainless Steel | 304 Stainless Steel | | | | |
| Internals | Acetal | Stainless Steel | | | | |
| Seals | Viton | Buna-N Food Grade | | | | |
| Maximum Temperature | 140°F (60°C) (1) | 120°F (49°C) (1) | | | | |
| Maximum Pressure | 150 psig (12.1 barg) (2) | 175 psig (10.3 barg) (2) | | | | |
| Minimum Pressure | 15 psig (1 barg) (3) | 15 psig (1 barg) (3) | | | | |
| Shipping Weight | 3.5 lbs. (1.6 Kg) | 3.5 lbs. (1.6 Kg) | 3.5 lbs. (1.6 Kg) | 4.0 lbs. (1.8 Kg) | 11 lbs. (4.9 Kg) | 12 lbs. (5.4 Kg) |
| Dimensions | 1.5"W x 4.2"L (3.8cm x 11.7cm) | 3"W X 7"L (7cm X 18cm) | 3"W X 7"L (7cm X 18cm) | 3"W X 10"L (7cm X 25cm) | 4"W X 10"L (10cm X 25cm) | 4"W X 12"L (10cm X 30cm) |

Notes:

1 Max. temperature with auto drain. Max. temperature with manual drain is 275°F (135°C).
 2 Max. pressure with auto drain. Max. pressure with manual drain is 250 psi (17 barg).
 3 Required for proper operation of auto drain.

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

| Assembly Ordering Information | | | | |
|-------------------------------|---------------|----------------|---------------------|------------------------------------|
| Model P/N | Filter Tube | Drain (Manual) | Drain (Auto. Float) | Mounting Bracket (stainless steel) |
| 6102N-0A0-(?X) | 070-063-(?X) | SAP05481 | N/A | N/A |
| 6102N-0A1-(?X) | 070-063-(?X) | N/A | C02-2392 | N/A |
| 6002N-0A2-(?X) | 100-12-(?X) | C01-0108 | N/A | C01-0094 |
| 6002N-0A1-(?X) | 100-12-(?X) | N/A | C01-0109 | C01-0094 |
| 6002N-0A2-SA | 100-12-SA | C01-0108 | N/A | C01-0094 |
| 6002N-0A2-000 | CI-100-12-000 | C01-0108 | N/A | C01-0094 |
| 6904N-0A2-(?X) | 100-12-(?X) | C01-0108 | N/A | C01-0094 |
| 6904N-0A2-(?X) | 100-12-(?X) | N/A | C01-0109 | C01-0094 |
| 6904N-0A2-SA | 100-12-SA | C01-0108 | N/A | C01-0094 |
| 6904N-0A2-000 | CI-100-12-000 | C01-0108 | N/A | C01-0094 |
| 6004N-0A2-(?X) | 100-18-(?X) | C01-0108 | N/A | C01-0094 |
| 6004N-0A1-(?X) | 100-18-(?X) | N/A | C01-0109 | C01-0094 |
| 6004N-0A2-SA | 100-18-SA | C01-0108 | N/A | C01-0094 |
| 6004N-0A2-000 | CI-100-18-000 | C01-0108 | N/A | C01-0094 |
| 6006N-0A2-(?X) | 200-176-(?X) | C01-0108 | N/A | C01-0094 |
| 6006N-0A1-(?X) | 200-176-(?X) | N/A | C01-0109 | C01-0094 |
| 6006N-0A2-SA | 200-176-SA | C01-0108 | N/A | C01-0094 |
| 6006N-0A2-000 | 200-176-000 | C01-0108 | N/A | C01-0094 |
| 6008N-0A2-(?X) | 200-185-(?X) | C01-0108 | N/A | C01-0094 |
| 6008N-0A1-(?X) | 200-185-(?X) | N/A | C01-0109 | C01-0094 |
| 6008N-0A2-SA | 200-185-SA | C01-0108 | N/A | C01-0094 |
| 6008N-0A2-000 | 200-185-000 | C01-0108 | N/A | C01-0094 |

| Replacement Filter Cartridge Ordering Information | | | | | |
|---|----------------|---------------|---------------|----------------|----------------|
| Model P/N | 6102 | 6002/6904 | 6004 | 6006 | 6008 |
| Replacement Filter Cartridges | | | | | |
| Number required | 1 | 1 | 1 | 1 | 1 |
| Box of 5 | 5/070-063-(?X) | 5/100-12-(?X) | 5/100-18-(?X) | 5/200-176-(?X) | 5/200-185-(?X) |
| Box of 10 | 070-063-(?X) | 100-12-(?X) | 100-18-(?X) | 200-176-(?X) | 200-185-(?X) |
| Box of 10 | 070-063-SA | 100-12-SA | 100-18-SA | 200-176-SA | 200-185-SA |
| CI Cartridges (box of 1) | --- | CI100-12-000 | CI100-18-000 | CI200-176-000 | CI200-185-000 |

Compressed Air Filters

Disposable Filter Silencers

Models 9955-05-DX, 9955-11-DX,
9955-12-DX, AR-009-DX

Balston Filter/Silencers for air exhausts offer the combination of unusually effective sound attenuation and filtration of all visible oil mist from the exhaust air. The Filter/Silencers are available in 1/8", 1/4", 1/2", and 3/4" port sizes. They contain a Grade DX Microfiber Filter Cartridge sealed into a molded nylon or steel holder.

Balston Filter/Silencers are remarkably efficient sound mufflers, far more efficient than the felts, pleated paper, sintered plastic, and sintered metal products commonly used in other exhaust silencers. A sound attenuation efficiency test comparing a 9955-12-DX, 1/2" Filter/Silencer with a sintered polyethylene silencer is described below.

This silencing efficiency test simulates the action of an air cylinder discharging rapidly to atmosphere. A length of 1/2" line between two ball valves is pressurized with air to a controlled pressure. The upstream valve is closed and then the downstream valve is opened rapidly to discharge the fixed volume of air under pressure to atmosphere. Noise levels were measured at a 3 foot (1 meter) distance with no silencer on the end of the line, with the Balston Filter Silencer, and with competitive silencers.



Model 9955-05-DX



Model 9955-11-DX



Model 9955-12-DX



Model AR-009-DX

Compressed Air Filters

| Noise Level (dBA) | Upstream Pressure psig (barg) | | | | |
|-------------------------------------|-------------------------------|----------|----------|----------|----------|
| | 100 (7) | 80 (5.5) | 60 (4.3) | 40 (2.7) | 20 (1.5) |
| Without Silencer | 102 | 102 | 101 | 99 | 95 |
| With Balston Silencer | 70 | 70 | 69 | 67 | 65 |
| With Sintered Polyethylene Silencer | 88 | 88 | 87 | 87 | 81 |

A similar test of the Model AR-009-DX on a 3/4" air line gave the following results:

| Sound Level 3 ft. from 3/4" Air Line Discharging Air At 100 PSIG Atmosphere | |
|---|---------|
| Without Silencer | 113 dBA |
| With Model AR-009-DX | 94 dBA |

Compressed Air Filters

Disposable Filter Silencers

Principal Specifications

| Model | 9955-05-DX | 9955-11-DX | 9955-12-DX | AR-009-DX |
|---|---|----------------------------------|----------------------------------|--------------------------------------|
| Inlet Port | 1/8" NPT (Male) | 1/4" NPT (Male) | 1/2" NPT (Male) | 3/4" NPT (Female) |
| Drain Port | 1/4" OD Tubing | 1/4" OD Tubing | 1/4" OD Tubing | 1/8" NPT (Female) |
| Materials of Construction | | | | |
| Filter Cartridge | Borosilicate glass microfibers with fluorocarbon resin binder | | | |
| Holder | Nylon | Nylon | Nylon | Aluminum |
| Internals | — | — | — | Aluminum |
| Maximum Internal Pressure at 110°F (43°F) | 100 psig (7 barg) (1) | 100 psig (7 barg) (1) | 100 psig (7 barg) (1) | 100 psig (7 barg) (1) |
| Maximum Temp. at 0 psig Internal Pressure | 260°F (127°C) | 260°F (127°C) | 260°F (127°C) | 300°F (149°C) |
| Shipping Weight | 0.5 lb (0.2 kg) | 0.5 lb (0.2 kg) | 0.5 lb (0.2 kg) | 1 lb (0.5 kg) |
| Dimensions | 1.4" dia. X 2.0"h (4cm X 5cm) | 1.4" dia. X 3.0"h (4cm X 8cm) | 2.0" dia. X 3.7"h (5cm X 9cm) | 3.95" dia. X 5.13"h (10cm X 13cm) |

Notes:

1 With the outlet open to atmosphere. Otherwise, maximum internal pressure is 15 psig.

Ordering Information

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

| Model | Description |
|------------------------------------|---|
| 9955-05-DX, 9955-11-DX, 9955-12-DX | Standard Pack 10 Filter Silencers per box, individually wrapped |
| AR-009-DX | Complete Assembly with one filter element |
| Replacement Element for AR-009-DX | |
| 2/BE200-168-DX | Boxes of 2 |
| BE200-168-DX | Boxes of 10 |

Table 1

Flow Rate from Pressured Line through Filter to Atmosphere (cu. ft. per sec.)

| Filter Housing Type | 100 psig (6.9 barg) Line Pressure | 60 psig (4.1 barg) Line Pressure | 20 psig (1.4 barg) Line Pressure |
|---------------------|-----------------------------------|----------------------------------|----------------------------------|
| 9955-05-DX | 3 (4.9) | 1.2 (2.5) | 0.2 (0.7) |
| 9955-11-DX | 10 (16.2) | 4 (8.2) | 0.7 (0.5) |
| 9955-12-DX | 35 (57) | 14 (29) | 2.2 (1) |
| AR-009-DX | 105 (171) | 42 (86) | 6.6 (4) |

Low Flow, Compact Compressed Air Filters



Compressed Air Filters

Balston 92-800 Series Compressed Air and Gas Filters

Safeguard critical end use points from water, oil, rust and pipescale. The 92-800 series compressed air filters are small and compact making them ideal for portable pneumatics, instrumentation, and other applications requiring small pneumatic components.

The 92-800 Series are available with anodized aluminum heads and polycarbonate bowls, anodized aluminum bowls, or pyrex glass bowls. Capable of up to 250 PSIG and 250°F, these filters can be applied to the most demanding applications. High efficiency filtration media is available from 93% at 0.01 micron to 99.9999+% at 0.01 micron.

The 92-800 series are available with 1/4" and 1/2" NPT connections.



Applications

These filters are ideal for safeguarding critical production equipment from corrosive compressor condensate that can cause catastrophic failures and unexpected shutdowns. Ideal applications are:

- Instrumentation
- Air actuators and air cylinders
- Pneumatic packaging machines
- Pneumatic conveyors
- Air operated production equipment
- Air operated lifts

Product Features

- Small compact design
- Anodized aluminum with polycarbonate, Pyrex, or aluminum bowls
- Continuously trap and drain liquids
- Remove up to 99.9999+% of 0.01 micron particles of oil, water, and dirt from compressed air and other gases
- High flow rate capacity
- Low pressure drop

The Parker Balston 92-800 Series offer the best protection to all your pneumatic equipment and instrumentation. These high efficiency filtration systems will eliminate costly maintenance and unexpected downtime due to contaminated compressed air.

Low Flow, Compact Compressed Air Filters

Principal Specifications and Ordering Information

Compressed Air Filters



92-810A



92-810

| Filter Housing Model | Port Size | Filter Cartridge Grade | Flow rates SCFM (Nm ³ /hr), 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 | | | | | | | | | |
|----------------------|-----------|------------------------|---|-----------|-----------|------------|------------|-------------|-------------|-------------|-------------|--|
| | | | 2 (0.14) | 20 (1.38) | 40 (2.76) | 80 (5.52) | 100 (6.9) | 125 (8.6) | 150 (10.3) | 200 (13.8) | 250 (17.2) | |
| Series 92-810/2 | 1/4" | DX | 12 (20.4) | 26 (44.2) | 40 (68.0) | 70 (118.9) | 85 (144.4) | 103 (175.0) | 122 (207.3) | 159 (270.1) | 196 (333.0) | |
| | 1/2" | BX | 3 (5.1) | 7 (11.9) | 10 (17.0) | 18 (30.6) | 22 (37.4) | 27 (45.9) | 32 (54.4) | 41 (69.7) | 51 (86.6) | |

Principal Specifications

| Model (1) | 92-810A | 92-810 |
|--------------------------|----------------------------------|----------------------------------|
| Port Size | 1/4" NPT | 1/4" NPT |
| Material of Construction | | |
| Head | Aluminum | Aluminum |
| Bowl | Aluminum | Polycarbonate |
| Internals | Aluminum | Aluminum |
| Seals | Buna-N Grade | Buna-N Grade |
| Maximum Temperature | 250°F (121°C) | 130°F (54°C) |
| Maximum Pressure | 250 psig (17 barg) | 150 psig (10 barg) |
| Shipping Weight | 2 lbs. (0.9 kg) | 2 lbs. (0.9 kg) |
| Dimensions | 2.75"W x 5.64"L (7cm W x 14cm L) | 2.75"W x 5.64"L (7cm W x 14cm L) |

Ordering Information | For assistance, please call 1-800-343-4048 | 8AM to 5PM Eastern Standard Time

| Model P/N (2) | Description | Replacement Cartridge | |
|---------------|--|-----------------------|-----------|
| | | Box of 2 | Box of 10 |
| 92-810A | 1/4" NPT Ports with Aluminum Bowl | 2/100-12-?X | 100-12-?X |
| 92-812A | 1/2" NPT Ports with Aluminum Bowl | 2/100-12-?X | 100-12-?X |
| 92-810 | 1/4" NPT Ports with Polycarbonate Bowl | 2/100-12-?X | 100-12-?X |
| 92-812 | 1/2" NPT Ports with Polycarbonate Bowl | 2/100-12-?X | 100-12-?X |

Notes:

- 1 For 1/2" NPT Ports, order 92-812
- 2 Filter housings are not supplied with filter cartridges

Compressed Air Filters

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. Flow direction through the element is inside-to-outside for optimum oil and water removal. 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).



AFR-940, AFR-940A

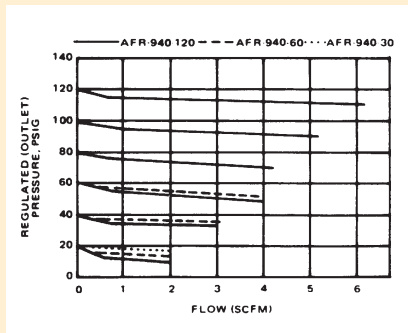


12E Series

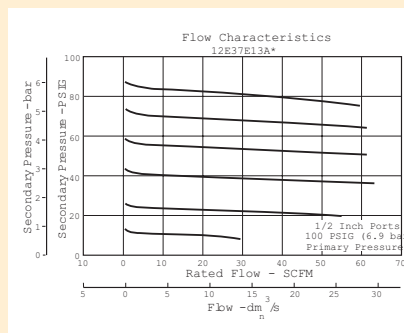
Compressed Air Filters

Control Characteristics

Model AFR-940, AFR-940A



Model 12E



Compressed Air Filters

Filter Regulators

Principal Specifications

| Model | AFR-940 | AFR-940A | 12E37 | 12E47 |
|---------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|
| Port Size | 1/4" NPT | 1/4" NPT | 1/2" NPT | 3/4" NPT |
| Gauge Ports | 1/8" NPT | 1/8" NPT | 1/4" NPT | 1/4" NPT |
| Materials of Construction | | | | |
| Head | Anod. Alum. | Anod. Alum. | Zinc | Zinc |
| Bowl | Polycarb. | Anod. Alum. | Zinc | Zinc |
| Bonnet | Polycarb. | Polycarb. | Plastic | Plastic |
| Internals | Brass/Buna | Brass/Buna | Zinc/Nitrile | Zinc/Nitrile |
| Maximum Temperature | 220°F (104°C) | 220°F (104°C) | 125°F (52°C) | 125°F (52°C) |
| Maximum Pressure | 150 psig (10.3 barg) (2) | 250 psig (17.2 barg) (2) | 250 psig (17.2 barg) (2) | 250 psig (17.2 barg) (2) |
| Minimum Pressure | — | — | 15 psig/1.03 barg (1) | 15 psig/1.03 barg (1) |
| Shipping Weight | 0.5 lbs. (0.2 kg) | 0.5 lbs. (0.2 kg) | 2.5 lbs. (1.1 kg) | 2.5 lbs. (1.1 kg) |
| Dimensions | 1.2"W X 6"L (3cm X 15cm) | 1.2"W X 6"L (3cm X 15cm) | 3.25"W X 13"L 8cm X 33cm) | 3.25"W X 13"L 8cm X 33cm) |

Ordering Information

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

| Model | AFR-940 | AFR-940A | 12E37 | 12E47 |
|-------------------------------|-------------|--------------|---------------------------|--------------|
| Control Gauge Pressure Range | | | | |
| 0-30 psig | AFR-940-30 | AFR-940A-30 | see ordering matrix below | → |
| 5-60 psig | AFR-940-60 | AFR-940A-60 | see ordering matrix below | → |
| 10-130 psig | AFR-940-130 | AFR-940A-130 | see ordering matrix below | → |
| Auto. Drain | N/A (1) | N/A (1) | Included (1) | Included (1) |
| Replacement Filter Cartridges | | | | |
| Number Required | 1 | 1 | 1 | 1 |
| Box of 5 | 5/050-05-BX | 5/050-05-BX | 5/130-14-BX | 5/130-14-BX |
| Box or 10 | 050-05-BX | 050-05-BX | 130-14-BX | 130-14-BX |
| Mounting Bracket | 11536 | 11536 | PS807P | PS807P |

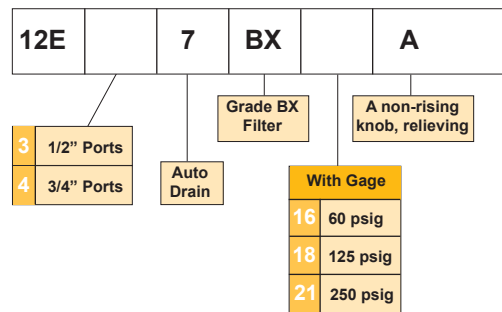
Notes:

- 1 Minimum operating pressure for automatic drain is 15 psig (1.03 barg).
- 2 Maximum pressure ratings are for tem-

peratures 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.



Compressed Air Filters

Mist Lubricators

Model 17L Series

Many pneumatic system components and most tools require oil lubrication for proper operation and long service life. This lubricant is typically carried by the air stream. Too little oil can cause excessive wear and premature failure. Too much oil is wasteful and can become a contaminant. Use of the proper lubricator can greatly extend the life of expensive downstream pneumatic equipment.

The 17L Series Micro-Mist Lubricators offer proportional oil delivery over a wide range of air flows. The precision needle valve assures repeatable oil delivery and provides simple adjustment of delivery rate. They are designed to generate oil droplets of 5 microns or smaller downstream to lubricate systems having complex piping arrangements.

The 17L series are ideal for low and high flow applications with changing air flow.



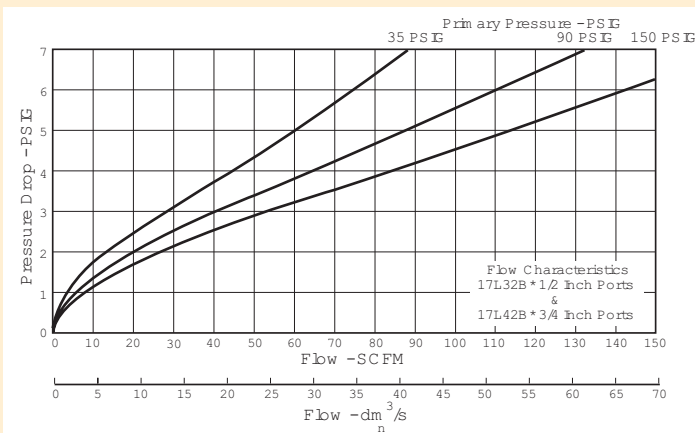
17L Series

How to Select the Correct Lubricator

Once the required flow is determined for a pneumatic application, the lubricator can be selected by using the flow chart. To read the lubricator flow chart, first determine the inlet pressure that will be used. Find the appropriate pressure curve on the graph. Each graph will contain three pressure curves. If the required inlet pressure is not on the graph, interpolate a similar curve for the required pressure.

Next, determine the acceptable pressure drop across the lubricator and locate it on the vertical axis. Find the intersection point of the acceptable pressure drop and the inlet pressure curve. At this point, follow a vertical path downward to view the flow in SCFM. If the flow is too low, select a larger port size or body size to give the required flow. If the flow is higher than necessary, select a smaller port size or body size to give the required flow.

Model 17L22B



Compressed Air Filters

Mist Lubricators

Principal Specifications

| Model | 17L22BE | 17L32BE | 17L42BE |
|---------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Port Size | 3/8" NPT | 1/2" NPT | 3/4" NPT |
| Gauge Ports | 1/4" NPT | 1/4" NPT | 1/4" NPT |
| Materials of Construction | | | |
| Head | Zinc | Zinc | Zinc |
| Bowl | Polycarbonate | Polycarbonate | Polycarbonate |
| Bowl Guard | Steel | Steel | Steel |
| Collar | Plastic | Plastic | Plastic |
| Seal | Nitrile | Nitrile | Nitrile |
| Sight Dome | Polycarbonate | Polycarbonate | Polycarbonate |
| Sight Gage | Polyamide | Polyamide | Polyamide |
| Maximum Temperature | 125°F (52°C) | 125°F (52°C) | 125°F (52°C) |
| Maximum Pressure | 150 psig (10.3 barg) | 150 psig (10.3 barg) | 150 psig (10.3 barg) |
| Minimum Pressure | 15 psig (1.03 barg) | 15 psig (1.03 barg) | 15 psig (1.03 barg) |
| Shipping Weight | 1.9 lbs. (0.9 kg) | 1.9 lbs. (0.9 kg) | 1.9 lbs. (0.9 kg) |
| Dimensions | 3.25"W X 9.27"L (85mm X 235mm) | 3.25"W X 9.27"L (85mm X 235mm) | 3.25"W X 9.27"L (85mm X 235mm) |

Ordering Information

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

| Model | 17L22BE (3/8"NPT) | 17L32BE (1/2"NPT) | 17L42BE (3/4"NPT) |
|-------------|-------------------|-------------------|-------------------|
| Service Kit | PS748P | PS748P | PS748P |

Compressed Air Filters

Selection Chart Prep-Air® II Air Preparation Units

Product Selection Chart

| Basic Unit | Series | Port Size (inches) | | | | | | | | | | | Bowls | | | Capacity | Elements (Micron) | Page | |
|------------|--------|--------------------|-----|-----|-----|-----|---|-------|-------|---|-------|---|-------|---------------------|----------|----------|-------------------|---------------|-----------------------------|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 | 2-1/2 | 3 | Poly | Metal | Metal SG | | 5 | | |
| FILTERS | FF10 | | | | X | | | | | | | | | 316 Stainless Steel | | | 4 oz. (113 ml) | Standard | 37 |
| | 10F | X | X | | | | | | | | | | | | X | X | X | 1 oz. (28 ml) | Grade 6 Std., Grade 10 Opt. |
| COALESCERS | FF501 | | X | | | | | | | | | | | 316 Stainless Steel | | | 1 oz. (28 ml) | Grade 6 | 41 |
| | FF11 | | | | X | | | | | | | | | 316 Stainless Steel | | | 4 oz. (113 ml) | Grade 6 | 43 |

| Basic Unit | Series | Port Size (inches) | | | | | | | Spring | Page |
|------------------------|--------|--------------------|-----|-----|-----|-----|---|-------|----------|------|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 1-1/2 | 125 | |
| REGULATORS STANDARD | FR364 | | X | | | | | | Standard | 45 |
| | 05R | | X | X | | | | | Standard | 47 |
| | FR10 | | | | X | | | | Standard | 49 |
| | 07R | | | X | X | X | | | Standard | 51 |
| | P3NR | | | | | X | X | X | Standard | 53 |

*Sight gauge

Compressed Air Filters

Selection Chart Prep-Air® II Air Preparation Units

Compressed Air Filters

Product Selection Chart

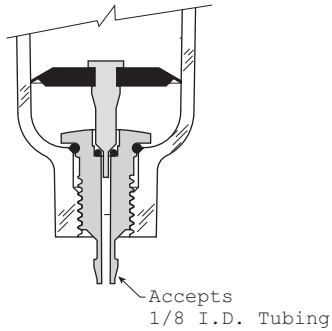
| Basic Unit | Series | Port Size | | | | | | | Bowls | | | Capacity | Elements (Micron) | Spring Range | Page |
|---|--------|-----------|-----|-----|-----|-----|---|-------|---------------------|-------|----------|---------------------|-------------------|--------------|------|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 1-1/2 | Poly | Metal | Metal SG | | 5 | 125 | |
| F I L T E R / R E G U L A T O R S | 14E | X | X | | | | | | X | X | N/A | 1 oz. (28 ml) | Standard | Standard | 55 |
| | FB548 | | X | | | | | | 316 Stainless Steel | | | 1 oz. (28 ml) | Standard | Standard | 57 |
| | 06E | | X | X | X | | | | X | X | X | 4.4 oz. (125 ml) | Standard | Standard | 59 |
| | FB11 | | | | X | | | | 316 Stainless Steel | | | 4 oz. (113 ml) | Standard | Standard | 61 |

*Sight gauge

Compressed Air Filters

Air Preparation Units - Drains

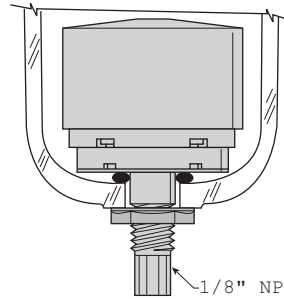
Automatic Pulse Drain



(Spitter Drain)

The diaphragm in this drain pulses when there is a pressure differential such as a valve cycling or cylinder stroking downstream. This action flexes the diaphragm and allows the filter to drain the entrapped water.

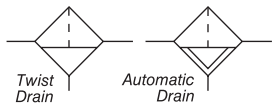
Automatic Float Drain



The float internal to this drain rises with increased liquid level. When the float rises, it opens a seat area allowing the trapped liquids to drain through the bottom. A manual override can be pushed in the bottom of the drain to unseat the float if particulates create a block.

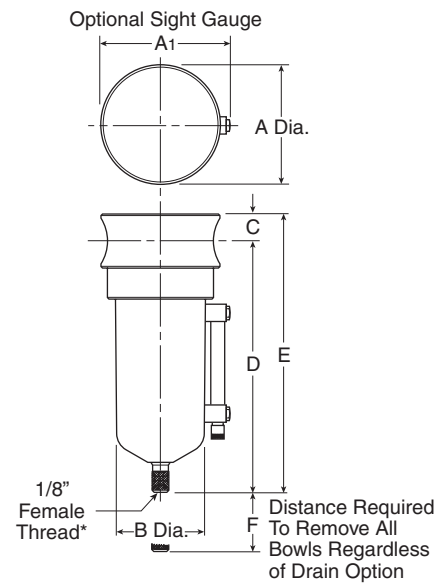
Compressed Air Filters

Air Preparation Units - FF10 Filter - Standard 1/2" NPT Ports



Features

- Stainless steel construction handles most corrosive environments.
- Meets NACE specifications MR-01-75/ISO 15156.
- 1/8" female threaded drain.
- High Flow: 1/2" - 70 SCFM (119 Nm³/hr)[§]



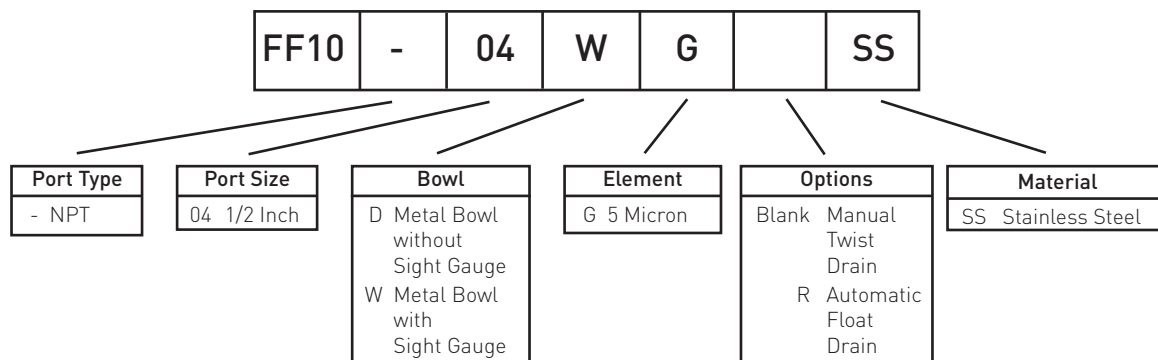
| Port Size | NPT without sight gauge | | NPT with sight gauge | |
|-----------|-------------------------|-----------------------|----------------------|-----------------------|
| | Manual Twist Drain | Automatic Float Drain | Manual Twist Drain | Automatic Float Drain |
| 1/2" | FF10-04DGSS | FF10-04DGRSS | FF10-04WGSS | FF10-04WGRSS |

| F10 Filter Dimensions | | |
|--------------------------|---------------------------|---------------------------|
| A 2.38 (60) | A1 2.50 (64) | B 1.75 (44) |
| C .56 (14) | D 5.00 (127) | E 5.56 (141) |
| F 2.12 (54) | | |

[§] SCFM = Standard cubic feet per minute at 90 PSIG inlet and 5 PSIG pressure drop.
Nm³/hr= Normal cubic meters per hour.

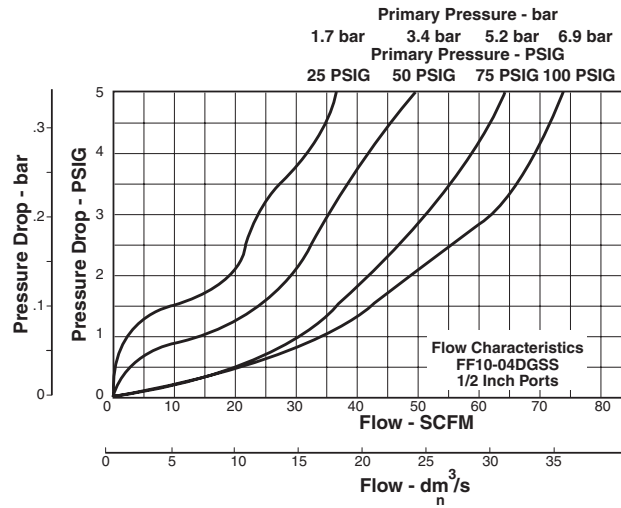
inches
(mm)

Ordering Information



Compressed Air Filters

Air Preparation Units - FF10 Air Line Filters Technical Information



FF10 Filter Kits & Accessories

- Drain Kit -
 Automatic Float Drain SA602MDSS
 Manual Twist Drain-
 Small (Old) SA600Y7-1SS
 Large (New) SAP05481
 Filter Element Kits -
 Particulate (5 Micron) Element EK55G
 Pipe Nipple - 1/2" 316 Stainless Steel 616A28-SS

Specifications

- Bowl Capacity 4.0 Ounces (28 ml)
 Filter Rating 5 Micron
 Sump Capacity 1.7 Ounce
 Port Threads 1/2 Inch
 Pressure & Temperature Ratings -
 Manual Twist Drain (D-Bowl) 0 to 300 PSIG (0 to 20.7 bar)
 0°F to 180°F (-18°C to 82°C)
 Manual Twist Drain (W-Bowl) 0 to 250 PSIG (0 to 17.2 bar)
 0°F to 150°F (-18°C to 66°C)
 Automatic Float Drain 15 to 175 PSIG (1 to 12 bar)
 40°F to 125°F (4°C to 52°C)

Note: Air must be dry enough to avoid ice formation at temperatures below 32°F (2°C).

Weight 1.9 lb. (0.85 kg)

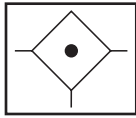
Materials of Construction

- Body 316 Stainless Steel
 Bowls 316 Stainless Steel
 Deflector Acetal
 Drain 316 Stainless Steel
 Element Holder Acetal
 Filter Element Polyethylene
 Seals Fluorocarbon
 Sight Gauge Isoplast

Compressed Air Filters

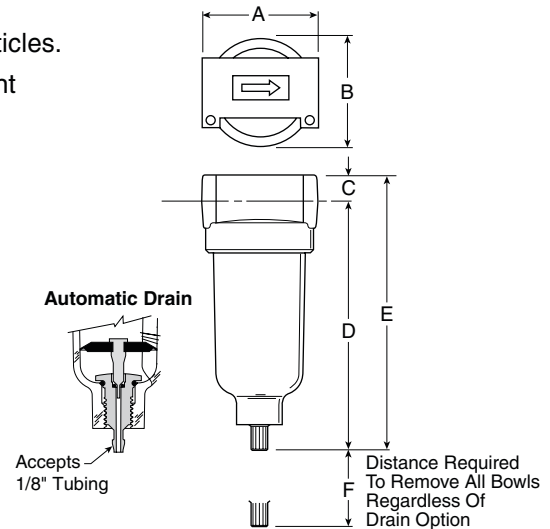
Air Preparation Units - 10F Coalescing Filters - Miniature 1/8", 1/4" Basic 1/8" Body

Compressed Air Filters



Features

- Removes liquid aerosols and sub-micron particles.
- Liquids gravitate to the bottom of the element and will not re-enter the airstream.
- Oil free air for critical applications, such as air gauging and pneumatic instrumentation and controls.
- Interchangeable twist and automatic pulse drains.
- Grade 6 element, 99.97% DOP efficiency.
- High Flow: Grade 6 Element
 - 1/8" – 17 SCFM (29 Nm³/hr) §
 - 1/4" – 20 SCFM (34 Nm³/hr) §
- Grade 10 Element
 - 1/8" – 19 SCFM (32 Nm³/hr) §
 - 1/4" – 24 SCFM (41 Nm³/hr) §



| Port Size | NPT | |
|--------------------------------|----------------|-----------------------|
| | Twist Drain | Automatic Pulse Drain |
| Poly Bowl † | | |
| 1/8" | 10F01E* | 10F05E* |
| 1/4" | 10F11E* | 10F15E* |
| Metal Bowl without Sight Gauge | | |
| 1/8" | 10F03E* | 10F07E* |
| 1/4" | 10F13E* | 10F17E* |

Standard part numbers shown bold, with Grade 6 Elements (for Grade 10 Elements, replace "E" with "H" in the 6th position). For other models refer to ordering information below.

† For polycarbonate bowl see Caution on page 2.

§ SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

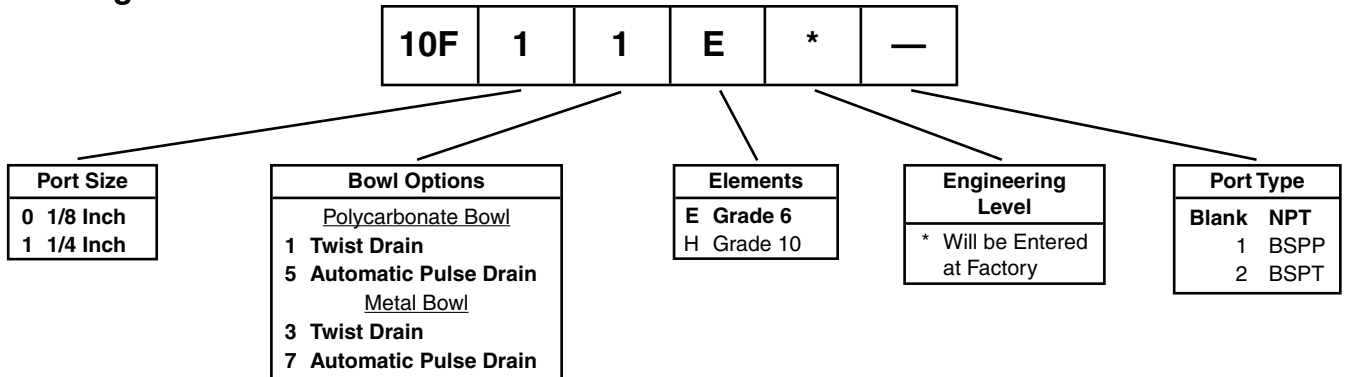
| 10F Coalescing Filter Dimensions | | |
|----------------------------------|----------------|---------------|
| A | B | C |
| 1.69 (43) | 1.56 (39,6) | 0.39 (10) |
| D | D* | E |
| 3.82 (97) | 3.67 (93) | 4.21 (107) |
| E* | F | |
| 4.06 (103) | 1.60 (41) | |

Inches (mm)

* With Automatic Pulse Drain.

| Dimension | Value |
|-----------|------------|
| C | 0.39 (10) |
| E | 4.21 (107) |

Ordering Information



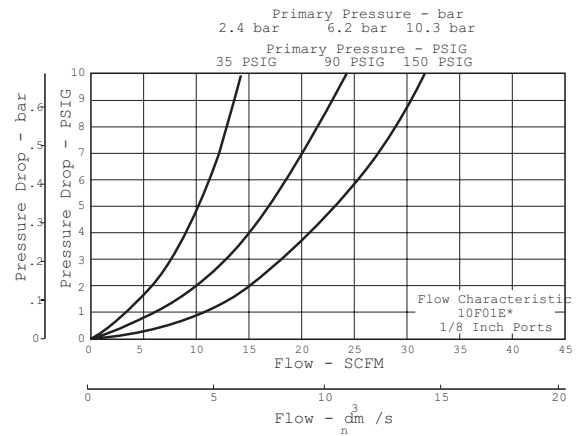
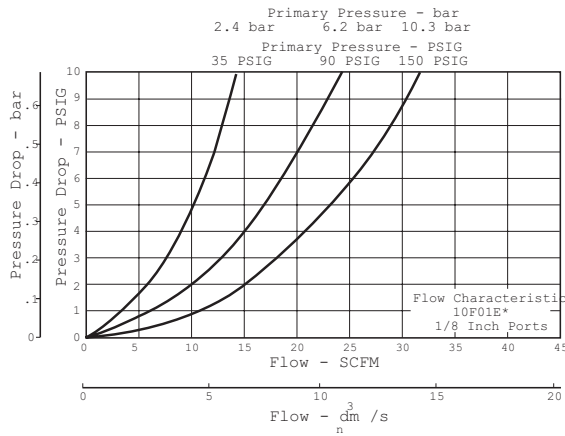
Compressed Air Filters

Air Preparation Units - 10F Coalescing Filters

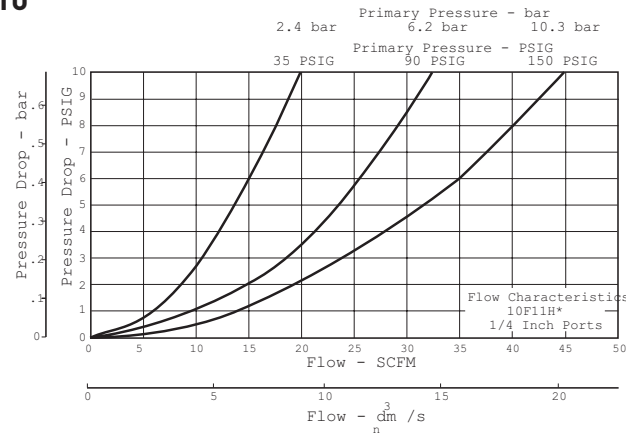
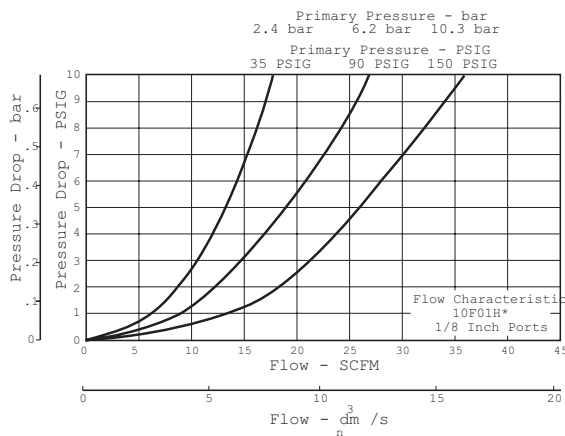
Technical Information

Compressed Air Filters

Grade 6



Grade 10



10F Coalescing Filter Kits & Accessories

- Bowl Kits -
 - Poly Bowl - Automatic Pulse Drain..... PS408BP
 - Twist Drain PS404P
 - Metal Bowl - Automatic Pulse Drain..... PS451BP
 - Twist Drain PS447BP
- Filter Element Kits - Grade 6 (Standard) PS446P
- Grade 10 (Optional) PS456P
- Mounting Bracket Kit PS417BP

Specifications

- Automatic Pulse Drain Tube Barb..... 1/8 Inch
- Bowl Capacity 1 Ounce (28 ml)
- Operation -
 - Normal Operating Pressure Drop 2 PSIG (0.14 bar)
 - Maximum Recommended Pressure Drop 10 PSIG (1.03 bar)
 - (Element should be replaced)
- Port Threads 1/8, 1/4 Inch
- Pressure & Temperature Ratings -
 - Polycarbonate Bowl..... 0 to 150 PSIG (0 to 10.3 bar)
 - 32°F to 125°F (0°C to 52°C)
 - Metal Bowl..... 0 to 250 PSIG (0 to 17.2 bar)
 - 32°F to 175°F (0°C to 80°C)
 - Automatic Pulse Drain..... 10 to 250 PSIG (0.7 to 17.2 bar)
 - at 125°F (52°C) or less
- Weight 0.41 lb. (0.18 kg)

Materials of Construction

- BodyZinc
- Bowls Transparent Polycarbonate
- Metal (Zinc) Without Sight Gauge
- Drains - Twist Drain -
 - Body & Stem Plastic
 - Seals..... Nitrile
- Automatic Pulse Drain -
 - Piston & Seals..... Nitrile
 - Stem, Seat, Adaptor & Washers Aluminum
- Element Holder Plastic
- Filter Element -
 - Borosilicate & felt glass fibers 99.97% DOP efficiency
 - Largest Aerosol Particle Passed (Grade 6)0.01 Micron
 - Largest Solid Particle Passed (Grade 6)0.30 Micron
- Seals Nitrile

Compressed Air Filters

Air Preparation Units

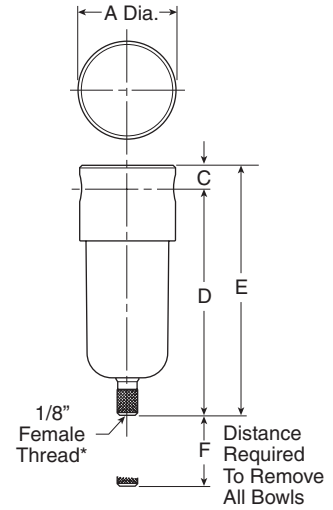
FF501 Coalescing Filter - Miniature 1/4" Ports

Compressed Air Filters



Features

- Stainless steel construction handles most corrosive environments.
- Meets NACE specifications MR-01-75/ISO 15156.
- 1/8" female threaded drain*.
- High Flow: 1/4" - 16 SCFM (27 Nm³/hr)[§]



| | |
|-----------|---------------------|
| Port Size | NPT |
| | Manual Twist Drain |
| 1/4" | FF501-02DHSS |

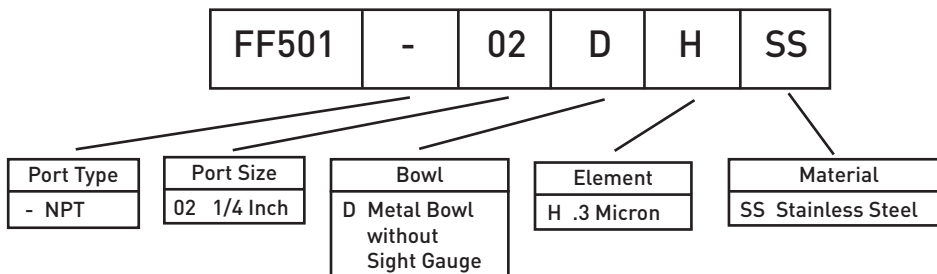
| F501 Coalescing Filter Dimensions | | |
|-----------------------------------|--------------|--------------|
| A | C | D |
| 1.56 (40) | 0.31 (8) | 3.69 (94) |
| E | F | |
| 4.00 (102) | 1.58 (40) | |

inches
(mm)

Standard part numbers shown bold. For other models refer to ordering information below.

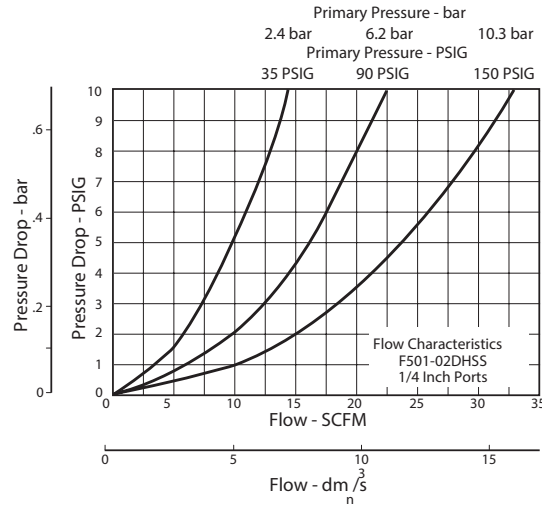
[§] SCFM = Standard cubic feet per minute.
Nm³/hr= Normal cubic meters per hour.

Ordering Information



Compressed Air Filters

Air Preparation Units - F501 Series Technical Information



FF501 Filter Kits & Accessories

| | |
|--------------------------------|-------------|
| Filter Element Kits – | |
| 0.3 Micron | EKF31 |
| Manual Twist Drain – | |
| Small (Old) | SA600Y7-1SS |
| Large (New) | SAP05481 |
| Pipe Nipple – | |
| 1/4" 316 Stainless Steel | 616Y28-SS |

Specifications

| | |
|----------------------------------|-------------------------------|
| Bowl Capacity | 1.0 Ounces (28 ml) |
| Filter Rating | 0.3 Micron |
| Port Threads | 1/4 Inch |
| Pressure & Temperature Ratings – | |
| Manual Twist Drain | 0 to 300 PSIG (0 to 20.7 bar) |
| | 0°F to 180°F (-18°C to 82°C) |

Note: Air must be dry enough to avoid ice formation at temperatures below 32°F (2°C)

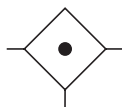
| | |
|---------------------|-------------------|
| Sump Capacity | 0.4 Ounce (11 ml) |
| Weight | 0.6 lb. (0.27 kg) |

Materials of Construction

| | |
|----------------------|---------------------|
| Body | 316 Stainless Steel |
| Bowls | 316 Stainless Steel |
| Drain | 316 Stainless Steel |
| Element Holder | Acetal |
| Filter Element | Borosilicate Fiber |
| Seals | Fluorocarbon |

Compressed Air Filters

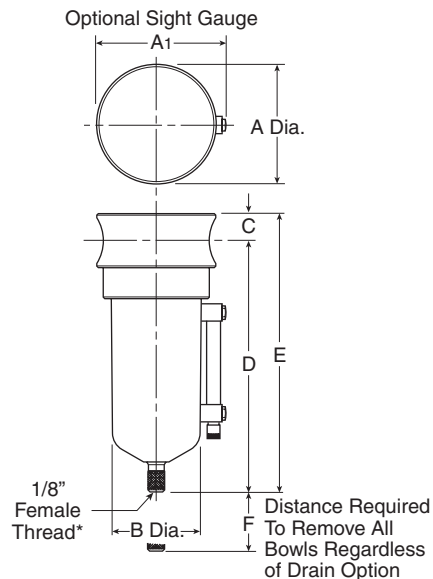
Air Preparation Units - FF11 Coalescing Filter Standard 1/2" Ports



Features

- Stainless steel construction handles most corrosive environments.
- Meets NACE specifications MR-01-75/ISO 15156.
- 1/8" female threaded drain*.
- High Flow: 1/2" - 45 SCFM (77 Nm³/hr)[§]

* Beginning January 2008



| Port Size | NPT without sight gauge | | NPT with sight gauge | |
|-----------|------------------------------------|-----------------------|----------------------|-----------------------|
| | Manual Twist Drain | Automatic Float Drain | Manual Twist Drain | Automatic Float Drain |
| 1/2" | Metal Bowl With Sight Gauge | | | |
| | F11-04DJSS | F11-04DJRSS | F11G04WJSS | F11G04WJRSS |

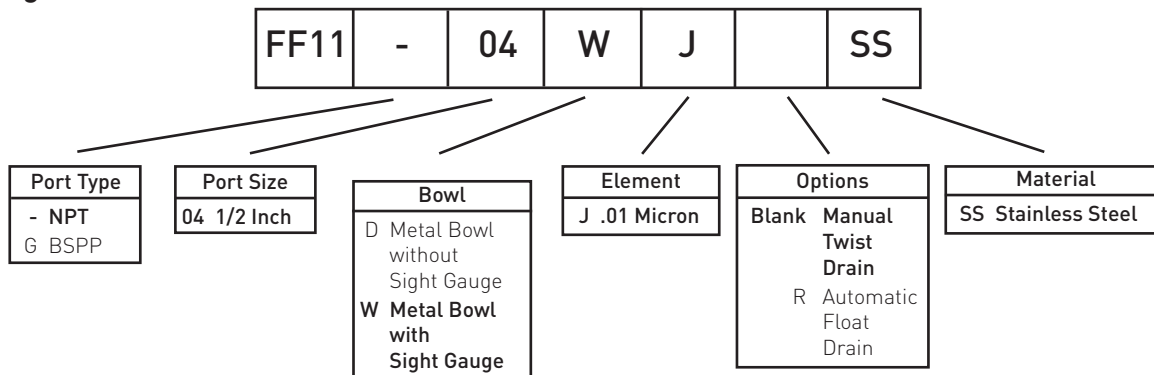
Standard part numbers shown bold. For other models refer to ordering information below.

[§] SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

| F11 Coalescing Filter Dimensions | | |
|----------------------------------|---------------------------|---------------------------|
| A 2.38 (60) | A1 2.50 (64) | B 1.75 (44) |
| C 0.56 (14) | D 5.00 (127) | E 5.56 (141) |
| F 2.12 (54) | | |

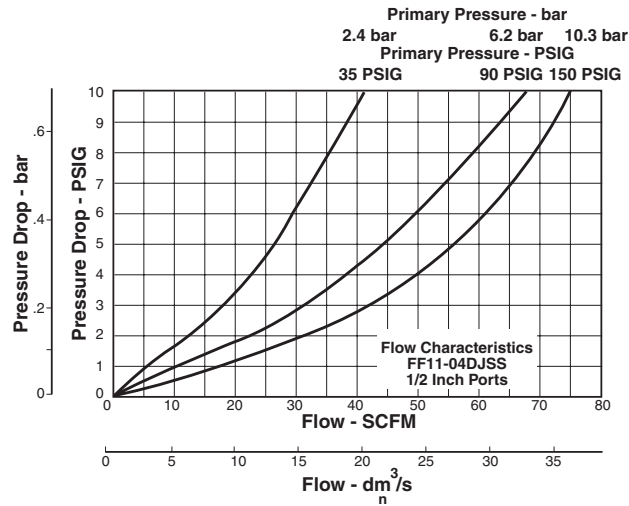
inches
(mm)

Ordering Information



Compressed Air Filters

Air Preparation Units - FF11 Series Technical Information



F11 Filter Kits & Accessories

- Drain Kit -
 - Automatic Float Drain.....SA602MDSS
 - Manual Twist Drain-
 - Small (Old) SA600Y7-1SS
 - Large (New)SAP05481
- Filter Element Kits -
 - 0.3 Micron.....EKF71
- Pipe Nipple -
 - 1/2" 316 Stainless Steel..... 616A28-SS

- Element HolderAcetal
- Filter ElementBorosilicate Fiber
- SealsFluorocarbon
- Sight Gauge Isoplast

Specifications

- Bowl Capacity.....4.0 Ounces
- Filter Rating0.01 Micron
- Sump Capacity1.7 Ounce
- Port Threads1/2 Inch
- Pressure & Temperature Ratings -
 - Manual Twist Drain0 to 300 PSIG (0 to 20.7 bar)
0°F to 180°F (-18°C to 82°C)
 - Manual Twist Drain (W).....0 to 250 PSIG (0 to 17.2 bar)
0°F to 150°F (-18°C to 66°C)
 - Automatic Float Drain0 to 175 PSIG (0 to 12 bar)
40°F to 125°F (4°C to 52°C)

Note: Air must be dry enough to avoid ice formation at temperatures below 32°F (2°C).

Weight 1.9 lb. (0.85 kg)

Materials of Construction

- Body316 Stainless Steel
- Bowls316 Stainless Steel
- Drain316 Stainless Steel

FF11 Media Specifications

| Grade Designation | Coalescing Efficiency 0.3 to 0.6 Micron Particles | Maximum Oil Carryover ¹ PPM w/w | Micron Rating | Pressure Drop PSID (bar) @ Rated Flow ² | | Flow: SCFM @3 PSID Operating Pressure 100 PSIG |
|-------------------|---|--|---------------|--|------------------------------|--|
| | | | | Media Dry | Media Wet With 10-20 wt. oil | |
| 6 | 99.97% | 0.008 | 0.01 | 1.0 (0.07) | 2-3 (0.14-0.21) | ?? |
| 10 | 95% | 0.85 | 1.0 | 0.5 (0.03) | 0.5 (0.03) | ?? |

¹Tested per ISO 12500-1 at 40 ppm inlet.

²Add dry + wet for total pressure drop.

Compressed Air Filters

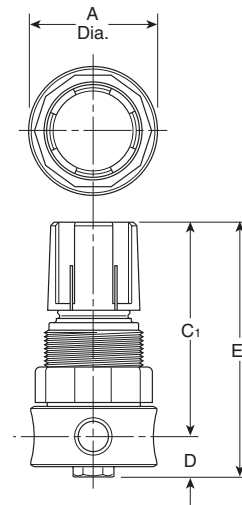
Air Preparation Units - FR364 Regulator - Miniature 1/4" Ports



R364

Features

- Stainless steel construction handles most corrosive environments.
- Large diaphragm to valve area ratio for precise regulation and high flow capacity.
- Meets NACE specifications MR-01-75/ISO 15156.
- High Flow: 1/4" - 12 SCFM (20 Nm³/hr)[§]



R364

| Series | Adjustment Type | Port Size | NPT |
|--------|-----------------|-----------|-------------|
| FR364 | Knob | 1/4" | FR364-02CSS |

[§] SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

| R364 Regulator Dimensions | |
|---------------------------|--------------------------------------|
| A 1.56 (40) | C₁ 2.56 (65) |
| D 0.50 (13) | E₁ 3.06 (78) |

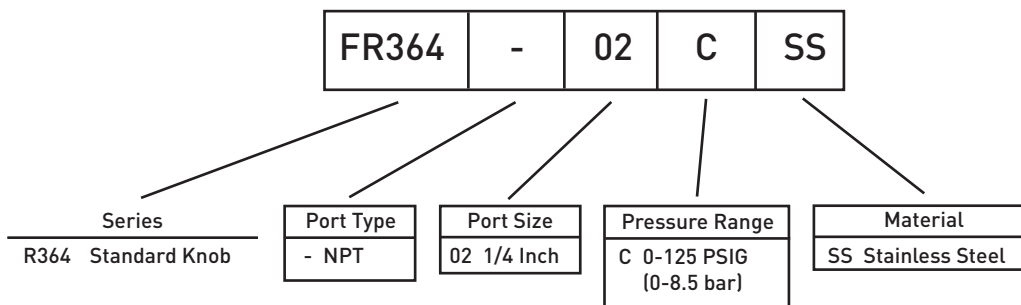
inches (mm)

NOTE: 1.25 Dia. (32mm) hole required for panel mounting.

WARNING

Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

Ordering Information

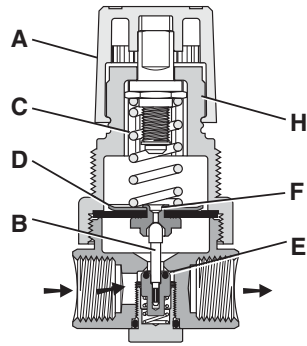


Compressed Air Filters

Air Preparation Units FR364 Air Line Regulators

Technical Information

Operation



FR364

With the adjusting knob (A) turned fully counter-clockwise (no spring load), and pressure supplied to the regulator inlet port, the valve poppet assembly (B) is closed. Turning the adjusting knob clockwise applies a load to control spring (C). This load causes the diaphragm (D) and the valve poppet assembly (B) to move downward allowing flow across the seat area (E) created between the poppet assembly and the seat. Pressure in the downstream line is sensed below the diaphragm (D) and offsets the load of spring (C). As downstream pressure rises, poppet assembly (B) and diaphragm (D) move upward until the area (E) is closed and the load of the spring (C) and pressure under diaphragm (D) are in balance. A reduced outlet pressure has now been obtained, depending on spring load. Creating a demand downstream, such as opening a valve, results in a reduced pressure under the diaphragm (D). The load of control spring (C) now causes the poppet assembly to move downward opening seat area (E) allowing air to flow to meet the downstream demand. The flow of downstream air is metered by the amount of opening (E). Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the diaphragm (D) to move upward against control spring (C), open vent hole (F), and vent the excess pressure to atmosphere through the hole in the bonnet (H). (This occurs in the relieving type regulator only.)

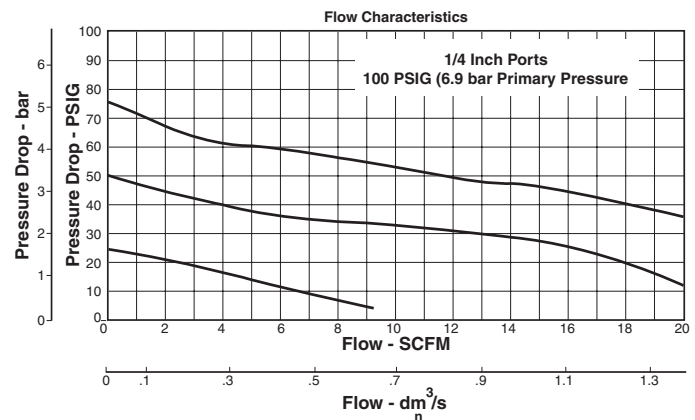
Technical Information

CAUTION:

REGULATOR PRESSURE ADJUSTMENT -

The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



FR364 Regulator Kits & Accessories

| | |
|---------------------------------------|---------------|
| R364 Bonnet Kit (Knob Included) | CKR364YSS |
| Gauge - | |
| 160 PSIG (0 to 1100 kPa) | K4515N14160SS |
| Panel Mount Bracket (Stainless) | 161X57-SS |
| Panel Mount Nut - | |
| Stainless | R05X51-SS |
| Plastic | R05X51-P |
| Service Kit - | |
| Relieving | RKR364YSS |
| Springs - | |
| 0-125 PSIG Range | SPR-377-1-SS |

Specifications

| | |
|--|-----------------------------|
| Gauge Port | 1/4 Inch |
| Operation | Fluorocarbon Diaphragm |
| Port Threads | 1/4 Inch |
| Pressure & Temperature Ratings - | 300 PSIG Max (20.7 bar) |
| | 40°F to 150°F (4°C to 66°C) |
| Weight | 0.5 lb. (0.23 kg) |

Materials of Construction

| | |
|--------------------------------------|---------------------|
| Adjustment Mechanism / Springs | 316 Stainless Steel |
| Adjusting Knob (R364) | Polypropylene |
| Body | 316 Stainless Steel |
| Bonnet (R364) | Acetal |
| Bottom Plug | 316 Stainless Steel |
| Poppet | 316 Stainless Steel |
| Seals | Fluorocarbon |

Compressed Air Filters

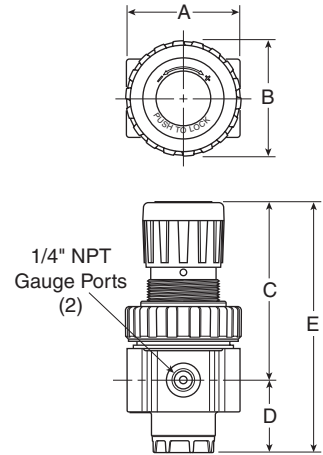
Air Preparation Units - 05R Regulators - Economy

1/4", 3/8" NPT - Basic 1/4" Body



Features

- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Rolling diaphragm for extended life.
- Removable non-rising knob for panel mounting and tamper resistance.
- Easily serviced.
- Reverse Flow.
- High Flow: 1/4" - 30 SCFM (51 Nm³/hr)[§]
3/8" - 40 SCFM (68 Nm³/hr)[§]



| Port Size | NPT |
|--------------------|----------|
| Without Gauge | |
| 1/4" | 05R113A* |
| 3/8" | 05R213A* |
| With 160 PSI Gauge | |
| 1/4" | 05R118A* |
| 3/8" | 05R218A* |

| 05R Regulator Dimensions | | |
|--------------------------|---------------|--------------|
| A | B | C |
| 2.00 (51) | 2.06 (52) | 3.16 (80) |
| D | E | |
| 1.28 (32) | 4.44 (113) | |

Inches (mm)

NOTE: 1.53 Dia. (39mm) hole required for panel mounting.

[§] SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

Ordering Information



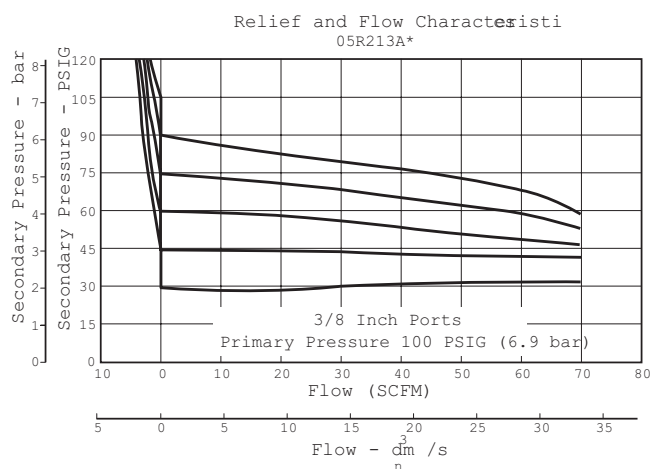
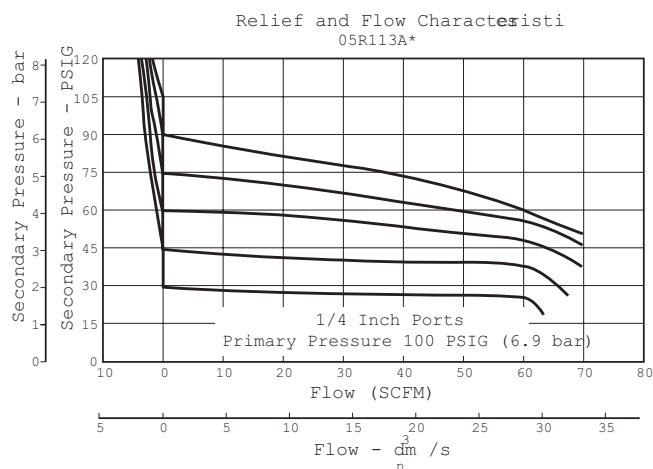
| | | | | | | |
|--|--|------------------------------|--|---|---|--|
| Port Size 1 1/4 Inch 2 3/8 Inch | Pressure Range Without Gauge 13 125 PSIG/ 8.62 barg With Gauge** 18 125 PSIG/ 8.62 barg | Relief A Relieving | Engineering Level * Will be Entered at Factory | Port Type Blank NPT * 1/4 & 3/8 inch meet ISO 1179-1 Standard. | Options Blank No Options † Inlet Pressure is 100 PSIG. For other pressures, contact factory. | Preset / Pressure Limited Blank None |
|--|--|------------------------------|--|---|---|--|

** Includes 1-1/2" Dial Face Gauge

Compressed Air Filters

Air Preparation Units 05R Air Line Regulators

Technical Information



CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

WARNING

Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

05R Regulator Kits & Accessories

| | |
|---------------------------------|-------------|
| Bonnet Assembly Kit | PS915P |
| Control Knob | P04420 |
| Gauges – 1-1/2" Dial Face | |
| 30 PSIG (0 to 2.1 bar) | K4515N14030 |
| 60 PSIG (0 to 4.1 bar) | K4515N14060 |
| 160 PSIG (0 to 11.0 bar) | K4515N14160 |
| 300 PSIG (0 to 20.0 bar) | K4515N14300 |
| 2" Dial Face | |
| 60 PSIG (0 to 4.1 bar) | K4520N14060 |
| 160 PSIG (0 to 11.0 bar) | K4520N14160 |
| Mounting Bracket Kit | PS963P |
| Panel Mount Nut – Metal | PS964P |
| Springs – 1-30 PSIG Range | P04427 |
| 1-60 PSIG Range | P04426 |
| 2-125 PSIG Range | P04425 |
| 2-200 PSIG | P02934 |
| Service Kit – Relieving | PS908P |

Specifications

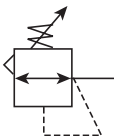
| | |
|---|-------------------------------|
| Gauge Ports (2) | 1/4 Inch |
| Port Threads | 1/4, 3/8 Inch |
| Primary Pressure Rating – | |
| Maximum Primary Pressure | 250 PSIG (17.2 bar) Max. |
| For Secondary Pressure Ranges see above charts. | |
| Temperature Rating | 32°F to 175°F (0°C to 80°C) |
| Low Temperature | -4°F to 125°F (-20°C to 52°C) |
| Weight | 1.1 lb. (0.49 kg) |

Materials of Construction

| | |
|----------------------------------|---------|
| Adjusting Stem | Brass |
| Bonnet | Plastic |
| Body | Zinc |
| Collar, Knob | Plastic |
| Diaphragm | Nitrile |
| Poppet & Cap | Plastic |
| Seals | Nitrile |
| Springs – Poppet & Control | Steel |

Compressed Air Filters

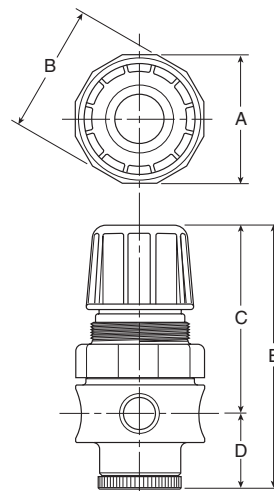
Air Preparation Units - FR10 Regulator - Standard 1/2" Ports



R10

Features

- Stainless steel construction handles most corrosive environments.
- Large diaphragm to valve area ratio for precise regulation and high flow capacity.
- Meets NACE specifications MR-01-75/ISO 15156.
- Low temperature version available.
- High Flow: 1/2" - 80 SCFM (136 Nm³/hr)[§]



R10

| | |
|-----------|------------|
| Port Size | NPT |
| 1/2" | FR10-04CSS |

[§] SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

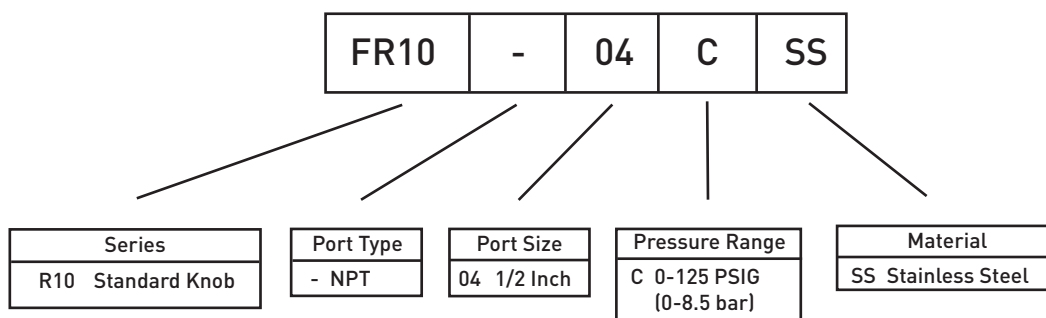
| R10, R11 Regulator Dimensions | | |
|-------------------------------|---------------|--------------|
| A | B | C |
| 2.34 (60) | 2.43 (62) | 3.59 (91) |
| D | E | |
| 1.38 (35) | 4.97 (126) | |

inches (mm)
NOTE: 1.75 Dia. (44mm) hole required for panel mounting.

WARNING

Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

Ordering Information

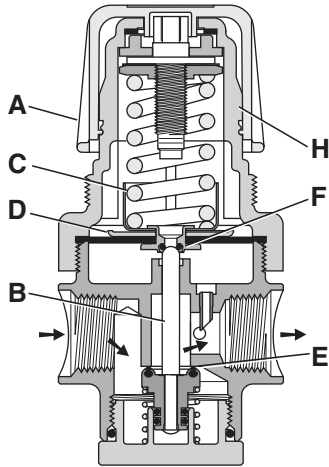


Compressed Air Filters

Air Preparation Units FR10 Air Line Regulators

Technical Information

Operation



With the adjusting knob (A) turned fully counter-clockwise (no spring load), and pressure supplied to the regulator inlet port, the valve poppet assembly (B) is closed. Turning the adjusting knob clockwise applies a load to control spring (C). This load causes the diaphragm (D) and the valve poppet assembly (B) to move downward allowing flow across the seat area (E) created between the poppet assembly and the seat. Pressure in the downstream line is sensed below the diaphragm (D) and offsets the load of spring (C). As downstream pressure rises, poppet assembly (B) and diaphragm (D) move upward until the area (E) is closed and the load of the spring (C) and pressure under diaphragm (D) are in balance. A reduced outlet pressure has now been obtained, depending on spring load. Creating a demand downstream, such as opening a valve, results in a reduced pressure under the diaphragm (D). The load of control spring (C) now causes the poppet assembly to move downward opening seat area (E) allowing air to flow to meet the downstream demand. The flow of downstream air is metered by the amount of opening (E).

Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the diaphragm (D) to move upward against control spring (C), open vent hole (F), and vent the excess pressure to atmosphere through the hole in the bonnet (H). (This occurs in the relieving type regulator only.)

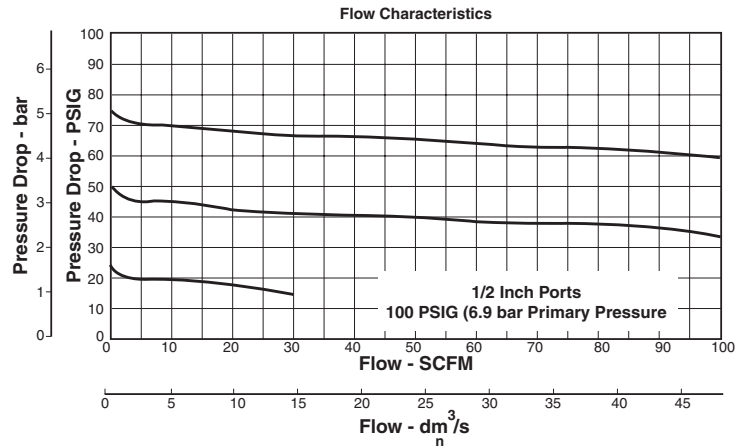
Technical Information

CAUTION:

REGULATOR PRESSURE ADJUSTMENT -

The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



FR10 Regulator Kits & Accessories

| | |
|---|---------------|
| R10 Bonnet Kit (Knob Included) | CKR10YSS |
| Gauge - | |
| 160 PSIG (0 to 1100 kPa), 2" Face | K4520N14160SS |
| Panel Mount Bracket (Stainless) | 161X57-SS |
| Panel Mount Nut - | |
| Stainless | R10X51-SS |
| Plastic | R10X51-P |
| Service Kit - | |
| Relieving | RKR10YSS |
| Springs - | |
| 0-125 PSIG Range | SPR-389-1-SS |

Specifications

| | |
|---|------------------------------|
| Gauge Port | 1/4 Inch |
| Operation | Fluorocarbon Diaphragm |
| Port Threads | 1/2 Inch |
| Pressure & Temperature Ratings - | 300 PSIG Max (20.7 bar) |
| | 0°F to 150°F [-18°C to 66°C] |
| Note: Air must be dry enough to avoid ice formation at temperatures below 32°F (2°C). | |
| Weight | 1.79 lb. (0.81 kg) |

Materials of Construction

| | |
|--------------------------------------|---------------------|
| Adjustment Mechanism / Springs | 316 Stainless Steel |
| Body | 316 Stainless Steel |
| Bonnet / Knob (R10) | Acetal |
| Bottom Plug | 316 Stainless Steel |
| Poppet | 316 Stainless Steel |
| Seals | Fluorocarbon |

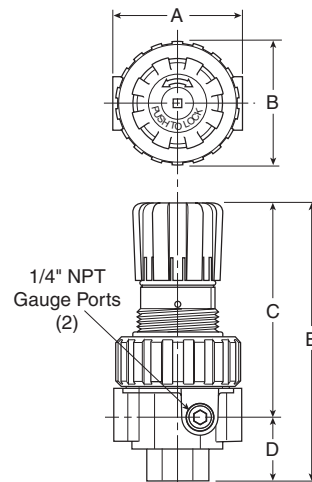
Compressed Air Filters

Air Preparation Units - 07R Regulators - Standard 3/8", 1/2", 3/4" NPT - Basic 1/2" Body



Features

- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.
- Rolling diaphragm for extended life.
- Two high flow 1/4" gauge ports can be used as additional outlets.
- Easily serviced.
- Removable non-rising knob for panel mounting and tamper resistance.
- High Flow: 3/8" - 70 SCFM (119 Nm³/hr) §
1/2" - 90 SCFM (153 Nm³/hr) §
3/4" - 90 SCFM (153 Nm³/hr) §



| Port Size | NPT |
|---------------|----------|
| Without Gauge | |
| 3/8" | 07R213A* |
| 1/2" | 07R313A* |
| 3/4" | 07R413A* |

NOTE: 2.00 Dia. (51mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

| 07R Regulator Dimensions | | |
|--------------------------|---------------|---------------|
| A | B | C |
| 3.24 (82) | 2.74 (70) | 4.79 (122) |
| D | E | |
| 1.61 (41) | 6.40 (163) | |

Inches (mm)

| | |
|---|----------------|
| | WARNING |
| Product rupture can cause serious injury. Do not connect regulator to bottled gas. Do not exceed maximum primary pressure rating. | |

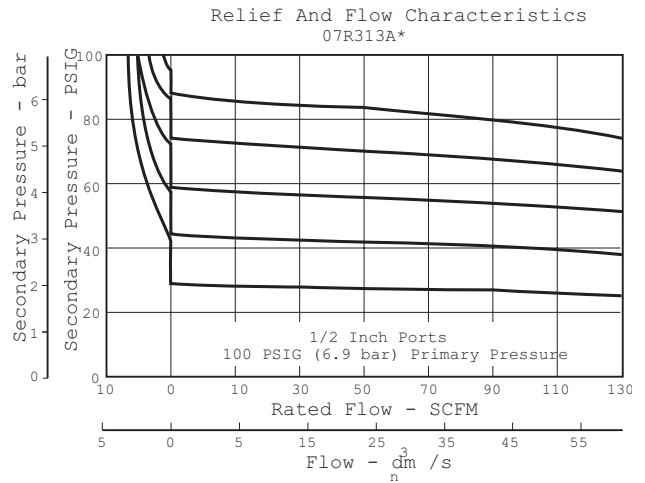
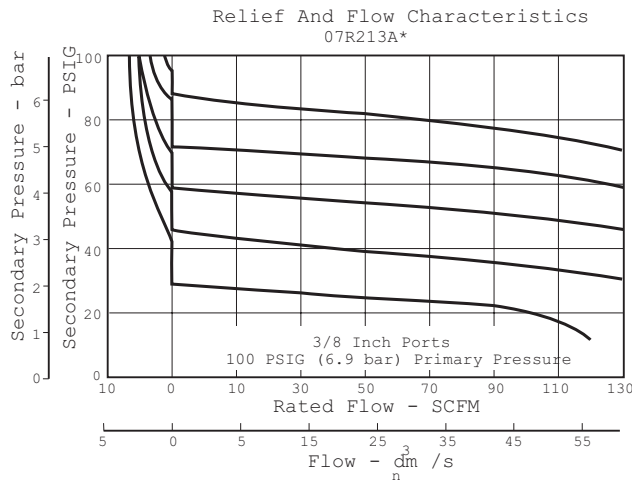
Ordering Information

| 07R | 3 | 13 | A | * | - | - | --- | | | | | | | | | | | | | | | | | |
|---|-----------|------------|------------|------------|---|----------------|---------------|--------------------------|---|--------|-------------|---|-------------------|------------------------------|--|-----------|-----------|---|---------|------------------|---|-------------------|---------|------------|
| <table border="1" style="width: 100%; text-align: left;"> <tr><th>Port Size</th></tr> <tr><td>2 3/8 Inch</td></tr> <tr><td>3 1/2 Inch</td></tr> <tr><td>4 3/4 Inch</td></tr> </table> | Port Size | 2 3/8 Inch | 3 1/2 Inch | 4 3/4 Inch | <table border="1" style="width: 100%; text-align: left;"> <tr><th>Pressure Range</th></tr> <tr><td>Without Gauge</td></tr> <tr><td>13 125 PSIG/ 8.6 barg</td></tr> </table> | Pressure Range | Without Gauge | 13 125 PSIG/ 8.6 barg | <table border="1" style="width: 100%; text-align: left;"> <tr><th>Relief</th></tr> <tr><td>A Relieving</td></tr> </table> | Relief | A Relieving | <table border="1" style="width: 100%; text-align: left;"> <tr><th>Engineering Level</th></tr> <tr><td>* Will be Entered at Factory</td></tr> </table> | Engineering Level | * Will be Entered at Factory | <table border="1" style="width: 100%; text-align: left;"> <tr><th>Port Type</th></tr> <tr><td>Blank NPT</td></tr> </table> <p style="font-size: small;">* 3/8 & 1/2 inch meet ISO 1179-1 Standard.</p> | Port Type | Blank NPT | <table border="1" style="width: 100%; text-align: left;"> <tr><th>Options</th></tr> <tr><td>Blank No Options</td></tr> </table> <p style="font-size: small;">† Inlet Pressure is 100 PSIG/ 6.89 barg. For other pressures, contact factory.</p> | Options | Blank No Options | <table border="1" style="width: 100%; text-align: left;"> <tr><th>Preset / Pressure</th></tr> <tr><td>Limited</td></tr> <tr><td>Blank None</td></tr> </table> | Preset / Pressure | Limited | Blank None |
| Port Size | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 3/8 Inch | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 1/2 Inch | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 3/4 Inch | | | | | | | | | | | | | | | | | | | | | | | | |
| Pressure Range | | | | | | | | | | | | | | | | | | | | | | | | |
| Without Gauge | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 125 PSIG/ 8.6 barg | | | | | | | | | | | | | | | | | | | | | | | | |
| Relief | | | | | | | | | | | | | | | | | | | | | | | | |
| A Relieving | | | | | | | | | | | | | | | | | | | | | | | | |
| Engineering Level | | | | | | | | | | | | | | | | | | | | | | | | |
| * Will be Entered at Factory | | | | | | | | | | | | | | | | | | | | | | | | |
| Port Type | | | | | | | | | | | | | | | | | | | | | | | | |
| Blank NPT | | | | | | | | | | | | | | | | | | | | | | | | |
| Options | | | | | | | | | | | | | | | | | | | | | | | | |
| Blank No Options | | | | | | | | | | | | | | | | | | | | | | | | |
| Preset / Pressure | | | | | | | | | | | | | | | | | | | | | | | | |
| Limited | | | | | | | | | | | | | | | | | | | | | | | | |
| Blank None | | | | | | | | | | | | | | | | | | | | | | | | |

Compressed Air Filters

Air Preparation Units 07R Air Line Regulators

Technical Information

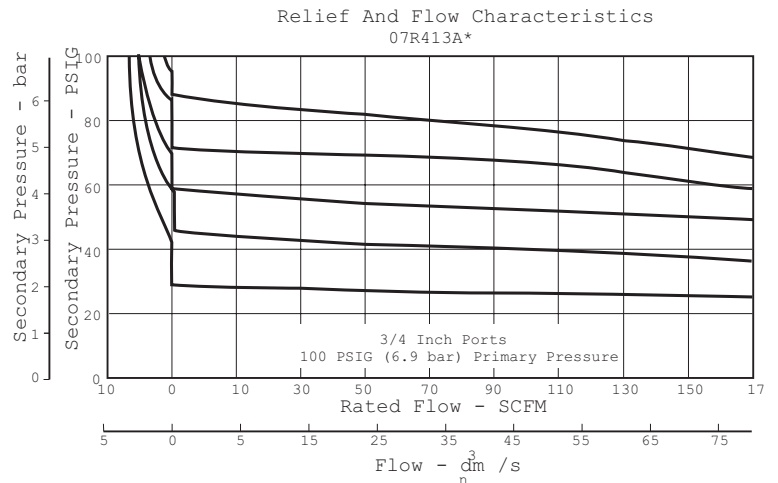


CAUTION:

REGULATOR PRESSURE ADJUSTMENT -

The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



07R Regulator Kits & Accessories

| | |
|---|-------------|
| Bonnet Assembly Kit | PS715P |
| Control Knob | P04069B |
| Gauges - 60 PSIG (0 to 4.1 bar) | K4520N14060 |
| 160 PSIG (0 to 11.0 bar) | K4520N14160 |
| Mounting Bracket Kit (Includes Panel Mount Nut) | PS807P |
| Panel Mount Nut - Plastic | P04082 |
| Metal | P04079B |
| Service Kit - Relieving (Includes Poppet) | PS808P |
| Springs - 2-125 PSIG Range | P04063 |
| Tamperproof Kit | PS737P |

Specifications

| | |
|---|------------------------------|
| Gauge Ports (2) | 1/4 Inch |
| [Can be used as additional High Flow 1/4 Inch Outlet Ports] | |
| Port Threads | 3/8, 1/2, 3/4 Inch |
| Primary Pressure Rating - | |
| Maximum Primary Pressure | 250 PSIG (17.2 bar) |
| Secondary Pressure Range - | |
| Standard Pressure | 2 to 125 PSIG (0 to 8.6 bar) |
| Temperature Rating | 32°F to 175°F (0°C to 80°C) |
| Weight | 2.5 lb. (1.1 kg) |

Materials of Construction

| | |
|---|-----------|
| Adjusting Stem | Steel |
| Body | Zinc |
| Bonnet, Piston Stem, Valve Poppet & Cap | Plastic |
| Collar, Knob | Plastic |
| Diaphragm | Nitrile |
| Seals | Nitrile |
| Springs - Poppet | Stainless |
| Control | Steel |

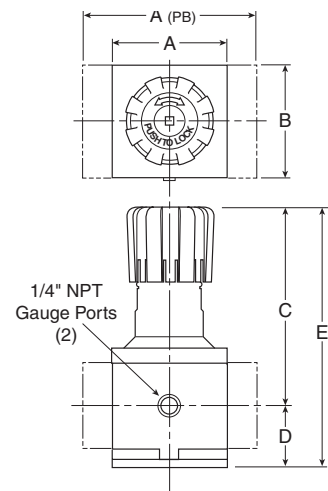
Compressed Air Filters

Air Preparation Units - P3NR Regulators - High Flow 3/4", 1", 1 1/2" NPT - Basic 1" Body



Features

- Port blocks (PB) available to provide 1-1/2" port extension to 1" ported bodies.
- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Solid control piston for extended life.
- High Flow: 3/4" - 200 SCFM (340 Nm³/hr) §
1" - 300 SCFM (510 Nm³/hr) §
1 1/2" - 300 SCFM (510 Nm³/hr) §



| Port Size | NPT |
|---------------|------------|
| Without Gauge | |
| 3/4" | P3NRA96BNN |
| 1" | P3NRA98BNN |
| 1 1/2" | P3NRA9PBNN |

NOTE: 2.00 Dia. (51mm) hole required for panel mounting.

§ SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

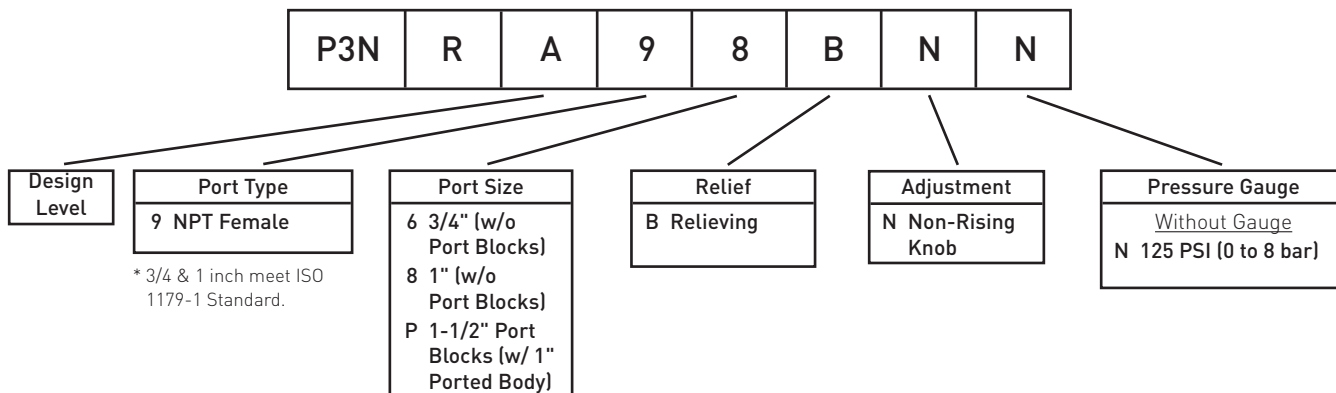
| P3NR Regulator Dimensions | | |
|---------------------------|-------------------|---------------|
| A | A ^(PB) | B |
| 3.62 (92) | 5.91 (150) | 3.62 (92) |
| C | D | E |
| 6.38 (162) | 2.08 (53) | 8.46 (215) |

Inches (mm)

⚠ WARNING

Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

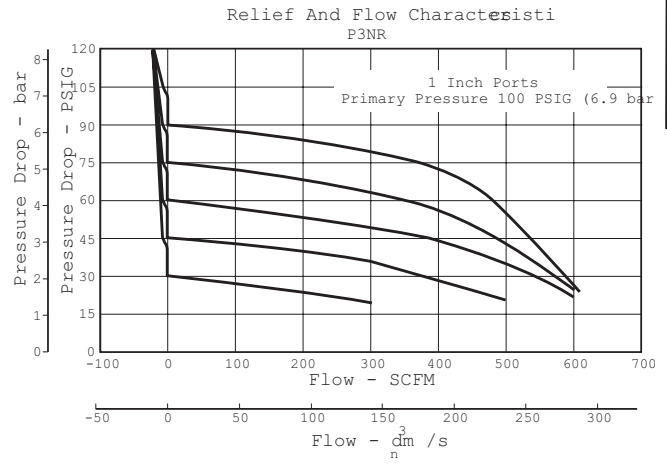
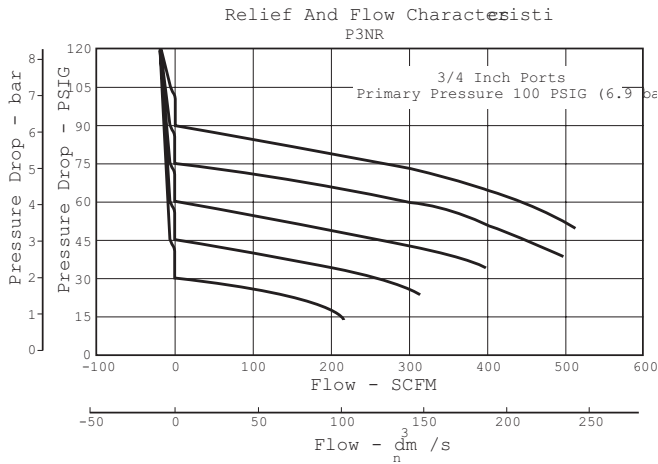
Ordering Information



Compressed Air Filters

Air Preparation Units - P3NR Air Line Regulators

Technical Information

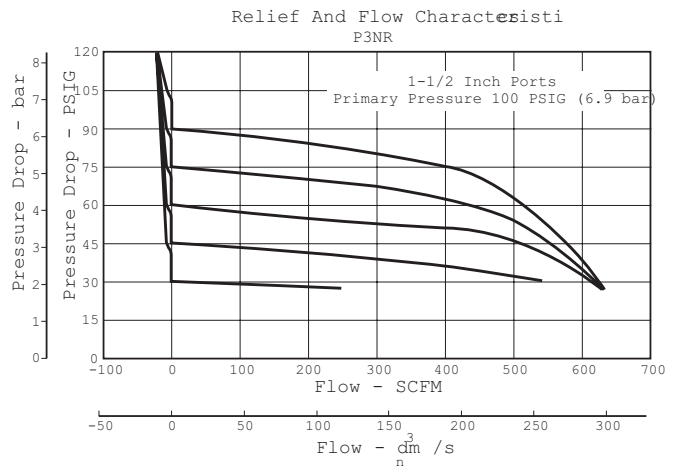


CAUTION:

REGULATOR PRESSURE ADJUSTMENT -

The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



P3NR Regulator Kits & Accessories

- Control Knob P3NKA00PN
- Gauges - 60 PSIG (0 to 4.1 bar) K4520N14060
- 160 PSIG (0 to 11.0 bar) K4520N14160
- Mounting Bracket Kit* P3NKA00MW
- Service Kit - Relieving P3NKA00RR
- Springs - 2-125 PSIG Range C10A1308

Specifications

- Gauge Ports (2) 1/4 Inch
(Can be used as additional High Flow 1/4 Inch Outlet Ports)
- Port Threads 3/4, 1, 1-1/2 Inch
- Primary Pressure Rating -
Maximum Primary Pressure 250 PSIG (17.2 bar)
- Secondary Pressure Range -
Standard Pressure 2 to 125 PSIG (0 to 8.6 bar)
- Temperature Rating 32°F to 175°F (0°C to 80°C)

- Weight - 3/4" 4.2 lb. (1.9 kg)
- 1" 4.2 lb. (1.9 kg)
- 1 1/2" + 5.3 lb. (2.4 kg)

Materials of Construction

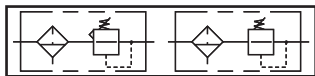
- Adjusting Stem Steel
- Body Aluminum
- Bonnet Aluminum
- Knob Plastic
- Piston Plastic
- Poppet Assembly Brass
- Seals Nitrile
- Springs - Poppet & Control Steel

+ 1" Port Body with 1 1/2" Port Block.

Compressed Air Filters

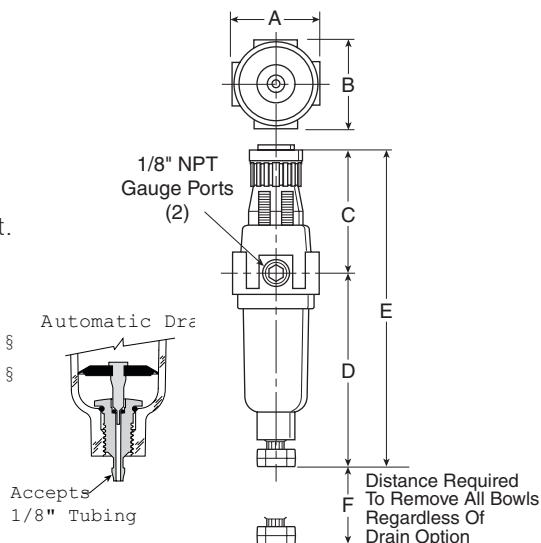
Air Preparation Units - 14E Filter/Regulator - Miniature 1/8", 1/4" NPT - Basic 1/8" Body

Compressed Air Filters



Features

- Excellent water removal efficiency.
- Unbalanced poppet standard.
- Solid control piston for extended life.
- Space saving package offers both filter and regulator features in one integral unit.
- Non-rising adjustment knob.
- Two full flow 1/8" gauge ports.
- High Flow: 1/8" - 16 SCFM (27 Nm³/hr) §
1/4" - 18 SCFM (31 Nm³/hr) §



| Port Size | NPT | |
|------------------------|-------------|-----------------------|
| | Twist Drain | Automatic Pulse Drain |
| Poly Bowl [‡] | | |
| 1/8" | 14E01B13F* | 14E05B13F* |
| 1/4" | 14E11B13F* | 14E15B13F* |
| Metal Bowl | | |
| 1/8" | 14E03B13F* | 14E07B13F* |
| 1/4" | 14E13B13F* | 14E17B13F* |

| A | B | C |
|----------------|----------------|---------------|
| 1.62 (41) | 1.58 (40) | 2.42 (61) |
| D | D [†] | E |
| 3.79 (96) | 3.64 (92) | 6.21 (158) |
| E [†] | F | |
| 6.06 (154) | 1.60 (41) | |

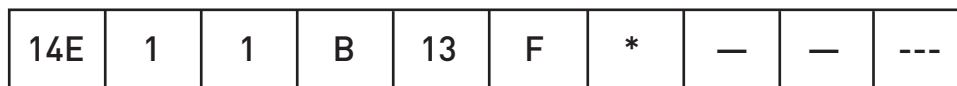
[‡] For polycarbonate bowl see Caution on page A2.

§ SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

Inches (mm)
[†] With Auto Drain

NOTE: 1.218 Dia. (31mm) hole required for panel mounting.

Ordering Information



| Port Size |
|------------|
| 0 1/8 Inch |
| 1 1/4 Inch |

| Elements |
|------------|
| B 5 Micron |

| Relief |
|-------------|
| F Relieving |

| Port Type |
|-----------|
| Blank NPT |

| Preset / Pressure Limited |
|---------------------------|
| Blank None |

| Bowl Options |
|--------------------|
| Polycarbonate Bowl |
| 1 Twist Drain |
| 5 Automatic Drain |
| Metal Bowl |
| 3 Twist Drain |
| 7 Automatic Drain |

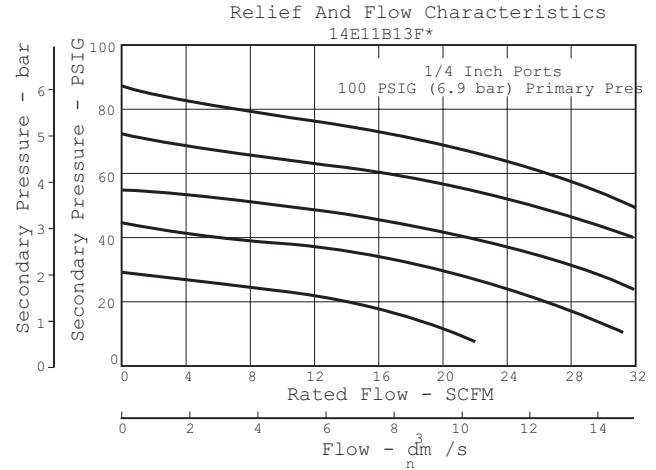
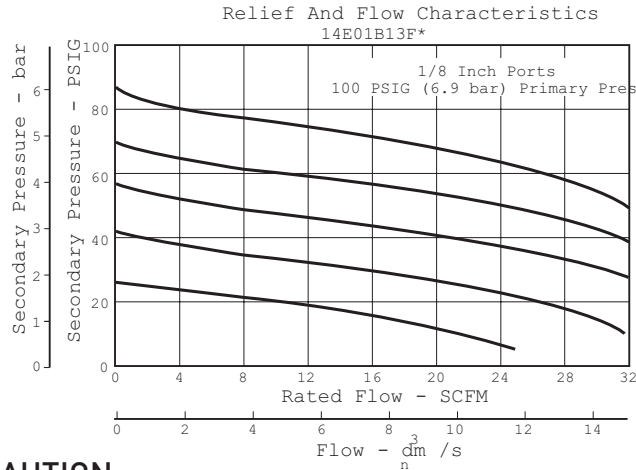
| Pressure Range |
|----------------|
| 13 125 PSIG |

| Engineering Level |
|------------------------------|
| * Will be Entered at Factory |

| Options |
|--|
| Blank No Options |
| [†] Inlet Pressure is 100 PSIG. For other pressures, contact factory. |

Compressed Air Filters

Air Preparation Units - Prep Air II, 14E Filter/Regulators Technical Information



CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

WARNING

Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

14E Filter / Regulator Kits & Accessories

Bowl Kits –

- Poly Bowl – Automatic DrainPS408BP
- Twist Drain..... PS404P
- Metal Bowl – Automatic DrainPS451BP
- Twist Drain.....PS447BP

Filter Element Kits – 5 Micron PS403P

Gauges -

- 30 PSIG (0 to 2.1 bar).....K4515N18030
- 60 PSIG (0 to 4.1 bar).....K4515N18060
- 160 PSIG (0 to 11.0 bar)..... K4515N18160

Mounting Bracket Kit (Includes Panel Mount Nut)PS417BP

Panel Mount Nut P78652

Poppet Kit – Unbalanced.....PS424BP

Service Kit – Relieving PS423P

Springs – 2- 125 PSIG Range (Gold).....P01173

Specifications

- Automatic Pulse Drain Tube Barb 1/8 Inch
- Bowl Capacity 1 Ounce
- Gauge Ports (2) (Can be used for Full Flow) 1/8 Inch
- Port Threads 1/8, 1/4 Inch

Pressure & Temperature Ratings –

- Polycarbonate Bowl
 - 0 to 150 PSIG (0 to 10.3 bar), 32°F to 125°F (0°C to 52°C)
- Metal Bowl
 - 0 to 250 PSIG (0 to 17.2 bar), 32°F to 175°F (0°C to 80°C)

Secondary Pressure Ranges –

- Standard Pressure 2 to 125 PSIG (0 to 8.6 bar)

Weight 0.4 lb. (0.18 kg)

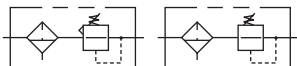
Materials of Construction

- Adjusting Nut Brass
- Adjusting Stem & Spring Steel
- Body Zinc
- Bonnet, Knob, Seat, Piston, Holder & Deflector Plastic
- Bowls Available – Transparent Polycarbonate
- Metal (Without Sight Gauge) Zinc
- Drains – Manual – Twist Type
 - Body & Stem Plastic
 - Seals Nitrile
- Automatic – Pulse Type
 - Piston & Seals Nitrile
 - Stem, Seat, Adaptor & Washers Aluminum
- Filter Elements – 5 Micron (Standard) Plastic
- Seals Nitrile

Compressed Air Filters

Air Preparation Units - FB548 Filter/Regulator - Miniature 1/4" Ports

Compressed Air Filters

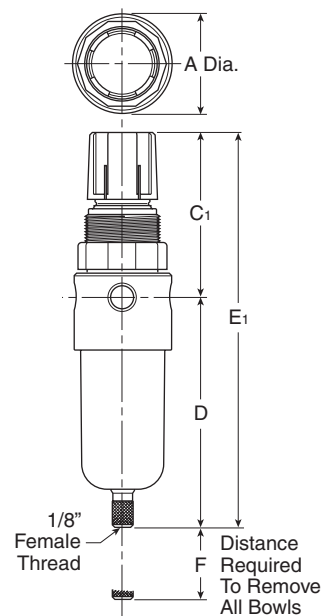


B548

Features

- Stainless Steel Construction Handles Most Corrosive Environments
- Large Diaphragm To Valve Area Ratio For Precise Regulation And High Flow Capacity
- 1/8" Female Threaded Drain*
- Meets NACE Specifications MR-01-75/ISO 15156.
- High Flow: 1/4" - 12 SCFM (20 Nm³/hr) §

* Beginning January 2008



| | |
|-----------|---------------|
| Port Size | NPT |
| 1/4" | FB548-02DGCSS |

§ SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

| FB548 Piggyback Dimensions | | |
|----------------------------|----------------|--------------|
| A | C ₁ | D |
| 1.56 (40) | 2.17 (55) | 3.63 (92) |
| E ₁ | F | |
| 3.06 (78) | 1.58 (40) | |

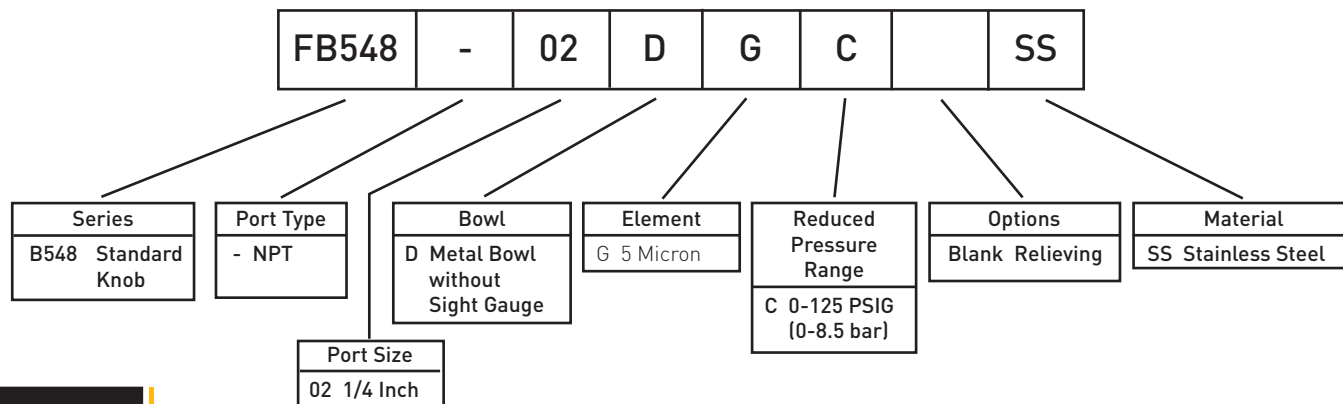
inches (mm)
NOTE: 1.25 Dia. (32mm) hole required for panel mounting.



WARNING

Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

Ordering Information

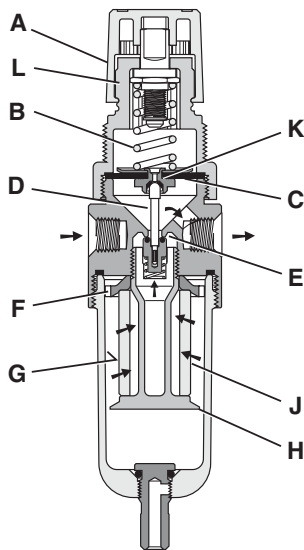


Compressed Air Filters

Air Preparation Units - FB548 Filter/Regulators

Technical Information

Operation



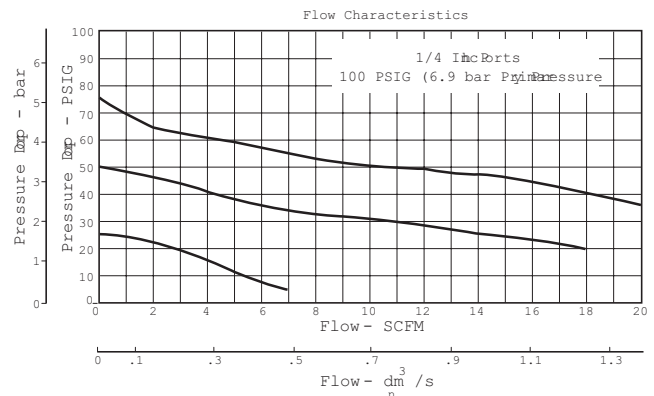
Turning the adjusting knob clockwise applies a load to control spring (B) which forces diaphragm (C) and valve poppet assembly (D) to move downward allowing filtered air to flow through the seat area (E) created between the poppet assembly and the seat. "First stage filtration". Air pressure supplied to the inlet port is directed through deflector plate (F) causing a swirling centrifugal action forcing liquids and coarse particles to the inner bowl wall (G) and down below the lower baffle (H) to the quiet zone. After liquids and large particles are removed in the first stage of filtration "second stage filtration" occurs as air flows through element (J) where smaller particles are filtered out and retained. The air flow now passes through seat area (E) to the outlet port of the unit. Pressure in the downstream line is sensed below the diaphragm (C) and offsets the load of spring (B). When downstream pressure reaches the set-point, poppet valve assembly (D) and diaphragm (C) move upward closing seat area (E). Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the diaphragm (C) to move upward opening vent hole (K) venting the excess pressure to atmosphere through the hole in the bonnet (L). (This occurs in the standard relieving type filter/regulators only.)

Technical Information

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



FB548, Regulator Kits & Accessories

| | |
|---|---------------|
| FB548 Bonnet Kit (Knob Included) | CKR364YSS |
| Filter Element Kits – | |
| Particulate (5 Micron)..... | EK504VY |
| Gauge – | |
| 160 PSIG (0 to 1100 kPa), 2" Face | K4515N14160SS |
| Manual Twist Drain | SA600Y7-1SS |
| Panel Mount Bracket (Stainless)..... | 161X57-SS |
| Panel Mount Nut – | |
| Stainless | R05X51-SS |
| Plastic..... | R05X51-P |
| Service Kit – | |
| Relieving | RK549YSS |
| Springs – | |
| 0-125 PSIG Range | SPR-377-1-SS |

Specifications

| | |
|--|------------------------------|
| Bowl Capacity..... | 1.0 Ounces/28 ml |
| Filter Rating | 5 Micron |
| Gauge Port | 1/4 Inch |
| Operation | Fluorocarbon Diaphragm |
| Port Threads | 1/4 Inch |
| Pressure & Temperature Ratings – | 300 PSIG Max (20.7 bar) |
| | 0°F to 150°F (-18°C to 66°C) |

Note: Air must be dry enough to avoid ice formation at temperatures below 32°F (2°C).

| | |
|---------------------|-------------------|
| Sump Capacity | 0.4 Ounce (11 ml) |
| Weight | 0.6 lb. (0.27 kg) |

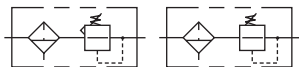
Materials of Construction

| | |
|--------------------------------------|---------------------|
| Adjustment Mechanism / Springs | 316 Stainless Steel |
| Body | 316 Stainless Steel |
| Bonnet (B548) | Acetal |
| Bottom Plug | 316 Stainless Steel |
| Knob (B548) | Polypropylene |
| Poppet | 316 Stainless Steel |
| Seals | Fluorocarbon |

Compressed Air Filters

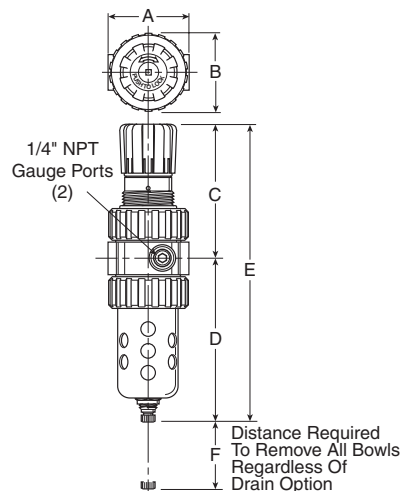
Air Preparation Units - 06E Filter/Regulator - Compact 1/4", 3/8", 1/2" NPT - Basic 3/8" Body

Compressed Air Filters



Features

- Space saving package offers both filter and regulator features for optimal performance.
- Excellent water removal efficiency.
- Rolling diaphragm for extended life.
- Quick response, and accurate pressure regulation regardless of changing flow or inlet pressure.
- Two high flow 1/4" gauge ports can be used as additional outlets.
- Shown with recommended metal bowl guard.
- High Flow: 1/4" - 46 SCFM (78 Nm³/hr) §
3/8" - 55 SCFM (93 Nm³/hr) §
1/2" - 61 SCFM (104 Nm³/hr) §



| Port Size | NPT | |
|--------------------------------------|-------------|-----------------------|
| | Twist Drain | Automatic Float Drain |
| Poly Bowl [‡] / Metal Guard | | |
| 1/4" | 06E12B13A* | 06E16B13A* |
| 3/8" | 06E22B13A* | 06E26B13A* |
| 1/2" | 06E32B13A* | 06E36B13A* |
| Metal Bowl / Sight Gauge | | |
| 1/4" | 06E14B13A* | 06E18B13A* |
| 3/8" | 06E24B13A* | 06E28B13A* |
| 1/2" | 06E34B13A* | 06E38B13A* |

| 06E Filter / Regulator Dimensions | | | |
|-----------------------------------|----------------|----------------|---------------|
| A | B | C | D |
| 2.81 (71) | 2.74 (70) | 4.69 (119) | 5.69 (145) |
| D [†] | E | E [†] | F |
| 5.74 (146) | 10.38 (264) | 10.43 (265) | 2.25 (57) |

Inches (mm)
† With Twist Drain or Auto Pulse Drain

[‡] For polycarbonate bowl see Caution on page 2.

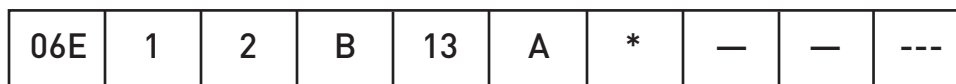
[§] SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

NOTE: 2.00 Dia. (50.8 mm) hole required for panel mounting. Max. panel thickness 1/4".

WARNING

Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

Ordering Information



| Port Size |
|------------|
| 1 1/4 Inch |
| 2 3/8 Inch |
| 3 1/2 Inch |

| Elements |
|------------|
| B 5 Micron |

| Relief |
|-------------|
| A Relieving |

| Port Type |
|-----------|
| Blank NPT |

* 1/4 & 3/8 inch meet ISO 1179-1 Standard.

| Preset |
|------------|
| Blank None |

| Bowl Options | |
|---------------------------------------|----------------------------------|
| <u>Polycarbonate Bowl</u> | <u>Metal Bowl</u> |
| 2 Metal Bowl Guard / Twist Drain | 4 Sight Gauge / Twist Drain |
| 6 Metal Bowl Guard / Auto Float Drain | 8 Sight Gauge / Auto Float Drain |

| Pressure Range |
|----------------|
| 13 125 PSIG |

| Engineering Level |
|------------------------------|
| * Will be Entered at Factory |

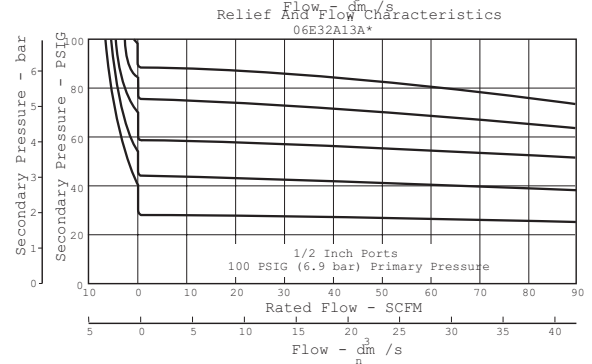
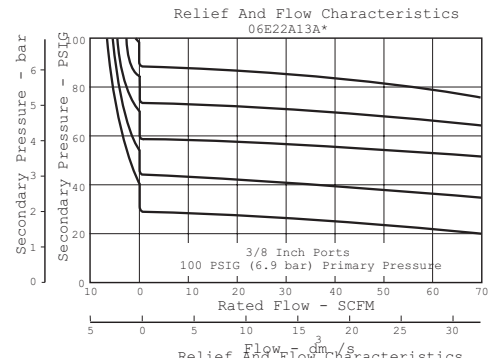
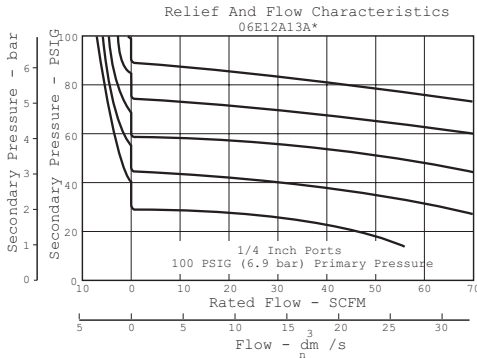
| Options |
|------------------|
| Blank No Options |

† Inlet Pressure is 100 PSIG. For other pressures, contact factory.

Compressed Air Filters

Air Preparation Units - 06E Filter/Regulators

Technical Information



CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

06E Filter / Regulator Kits & Accessories

| | |
|--|-------------|
| Bonnet Assembly Kit..... | PS715P |
| Bowl Guard Kit | PS705P |
| Bowl Kits – | |
| Poly Bowl – Automatic Float Drain | PS722P |
| Twist Drain | PS732P |
| Metal Bowl – Sight Gauge / Automatic Drain | PS723P |
| Sight Gauge / Twist Drain..... | PS735P |
| Control Knob..... | P04069B |
| Drain Kit – Automatic Float Drain | PS506P |
| Twist Drain | PS512P |
| Filter Element Kits – 5 Micron..... | PS702 |
| Gauges – 60 PSIG (0 to 4.1 bar)..... | K4520N14060 |
| 160 PSIG (0 to 11.0 bar)..... | K4520N14160 |
| Mounting Bracket Kit (Includes Panel Mount Nut)..... | PS707P |
| Panel Mount Nut | P04082 |
| Service Kits – Non-Relieving (Includes Poppet)..... | PS711P |
| Relieving (Includes Poppet)..... | PS710P |
| Seat Insert Kit | PS713P |
| Spring – 2- 125 PSIG Range..... | P04063 |
| Tamperproof Kit (Key Lock) | PS737P |

Specifications

| | |
|---|---------------------|
| Bowl Capacity..... | 4.4 Ounces (125 ml) |
| Gauge Ports (2) | 1/4 Inch |
| [Can be used as Additional Full Flow 1/4" Outlet Ports] | |
| Port Threads | 1/4, 3/8, 1/2 Inch |

Pressure & Temperature Ratings –

Polycarbonate Bowl – 0 to 150 PSIG (0 to 10.4 bar)
32°F to 125°F (0°C to 52°C)

Metal Bowl – 0 to 250 PSIG (0 to 17.2 bar)
32°F to 175°F (0°C to 80°C)

Automatic Float Drain – 15 to 250 PSIG (1.0 to 17.2 bar)

Secondary Pressure Range –

Standard Pressure..... 2 to 125 PSIG (0 to 8.6 bar)

Sump Capacity..... 1.75 Ounces

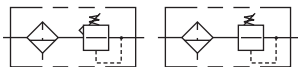
Weight..... 1.6 lb. (0.7 kg)

Materials of Construction

| | |
|--|---------------------------------|
| Adjusting Stem | Steel |
| Body | Zinc |
| Bonnet, Internal Parts | Plastic |
| Bowls Available – Transparent..... | Polycarbonate |
| Metal (With or Without Sight Gauge) | Zinc |
| Bowl Guard | Steel |
| Collar | Plastic |
| Diaphragm | Nitrile |
| Drains – Manual Twist Drain Standard | |
| Body & Nut | Plastic |
| Automatic Float Drain Optional | |
| (Interchangeable for Field Conversions) | |
| Operating Range..... | 10 to 250 PSIG (.7 to 17.2 bar) |
| Housing, Float | Plastic |
| Seals | Nitrile |
| Springs, Push Rod..... | Stainless Steel |
| Knob | Plastic |
| Filter Elements – 5 Micron (Optional)..... | Plastic |
| Seals | Nitrile |
| Sight Gauge | Polyamide |
| Springs – Poppet | Stainless |
| Control..... | Steel |

Compressed Air Filters

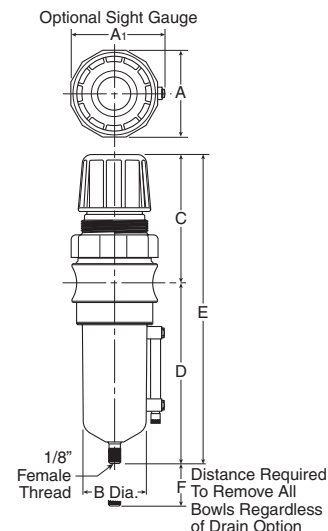
Air Preparation Units - FB11 Filter/Regulator - Standard 1/2" Ports



B11

Features

- Stainless steel construction handles most corrosive environments.
- Large diaphragm to valve area ratio for precise regulation and high flow capacity.
- 1/8" female threaded drain.
- Meets NACE specifications MR-01-75/ISO-15156.
- Low temperature version available.
- High Flow: 1/2" - 72 SCFM (122 Nm³/hr) §



FB11

| Port Size | Adjustment Type | NPT | | BSPB | |
|-----------|-----------------------------|---------------------|-----------------------|--------------------|-----------------------|
| | | Manual Twist Drain | Automatic Float Drain | Manual Twist Drain | Automatic Float Drain |
| 1/2" | Metal Bowl with Sight Gauge | | | | |
| | Knob | FB11-04WGCSS | FB11-04WGCRSS | FB11G04WGCSS | FB11G04WGCRSS |

| FB11 Piggyback Dimensions | | |
|---------------------------|---------------------------|---------------------------|
| A 2.34 (60) | A1 2.50 (64) | B 1.75 (44) |
| C 3.59 (91) | D 5.00 (127) | E 8.59 (218) |
| F 2.12 (54) | | |

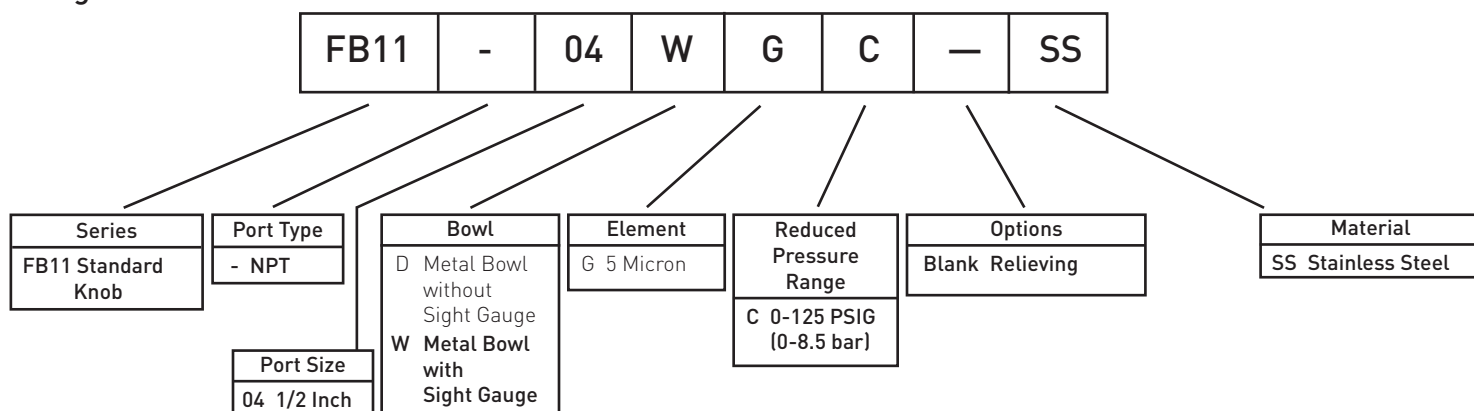
Standard part numbers shown bold. For other models refer to ordering information below.

§ SCFM = Standard cubic feet per minute.
Nm³/hr = Normal cubic meters per hour.

inches (mm)
NOTE: 1.75 Dia. (44mm) hole required for panel mounting.

| |
|--|
| WARNING |
| <p>Product rupture can cause serious injury. Do not connect regulator to bottled gas. Do not exceed maximum primary pressure rating.</p> |

Ordering Information

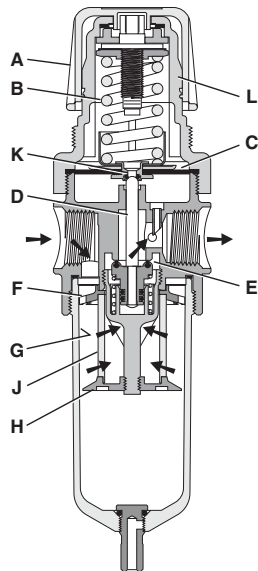


Compressed Air Filters

Air Preparation Units - FB11 Filter/Regulators

Technical Information

Operation



Turning the adjusting knob clockwise applies a load to control spring (B) which forces diaphragm (C) and valve poppet assembly (D) to move downward allowing filtered air to flow through the seat area (E) created between the poppet assembly and the seat. "First stage filtration".

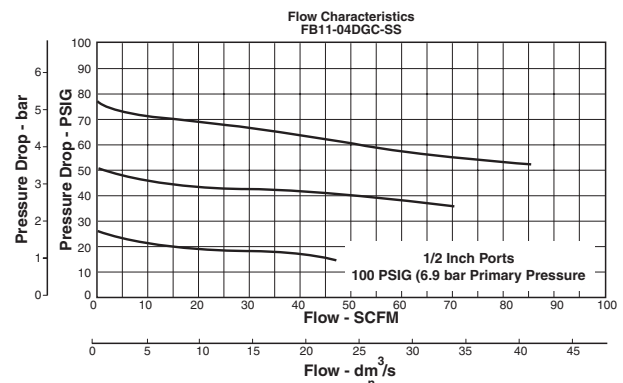
Air pressure supplied to the inlet port is directed through deflector plate (F) causing a swirling centrifugal action forcing liquids and coarse particles to the inner bowl wall (G) and down below the lower baffle (H) to the quiet zone. After liquids and large particles are removed in the first stage of filtration "second stage filtration" occurs as air flows through element (J) where smaller particles are filtered out and retained. The air flow now passes through seat area (E) to the outlet port of the unit. Pressure in the downstream line is sensed below the diaphragm (C) and offsets the load of spring (B). When downstream pressure reaches the set-point, poppet valve assembly (D) and diaphragm (C) move upward closing seat area (E). Should downstream pressure exceed the desired regulated pressure, the excess pressure will cause the diaphragm (C) to move upward opening vent hole (K) venting the excess pressure to atmosphere through the hole in the bonnet (L). (This occurs in the standard relieving type filter/regulators only.)

Technical Information

CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.



FB11 Regulator Kits & Accessories

| | |
|--|---------------|
| FB11 Bonnet Kit (Knob Included) | CKR10YSS |
| Drain Kit – | |
| Automatic Float Drain | SA602MDSS |
| Manual Twist Drain | SA600Y7-1SS |
| Filter Element Kit – | |
| Particulate (5 Micron)..... | EKF10VY |
| Gauge – | |
| 160 PSIG (0 to 1100 kPa), 2" Face..... | K4520N14160SS |
| Panel Mount Bracket (Stainless)..... | R10Y57-SS |
| Panel Mount Nut – | |
| Stainless | R10X51-SS |
| Plastic..... | R10X51-P |
| Service Kit – | |
| Relieving | RKR10YSS |
| Spring – | |
| 0-125 PSIG Range | SPR-389-1-SS |

Materials of Construction

| | |
|--------------------------------------|---------------------|
| Adjustment Mechanism / Springs | 316 Stainless Steel |
| Body | 316 Stainless Steel |
| Bonnet / Knob (B11) | Acetal |
| Bottom Plug | 316 Stainless Steel |
| Poppet | 316 Stainless Steel |
| Seals | Fluorocarbon |
| Sight Gauge | Isoplast |

Specifications

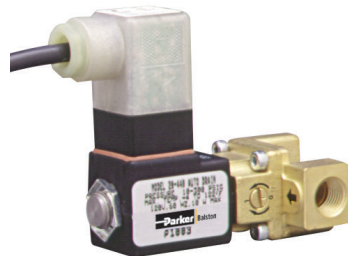
| | |
|---|-------------------------------|
| Bowl Capacity | 4.0 Ounces/114 ml |
| Filter Rating | 5 Micron |
| Gauge Port | 1/4 Inch |
| Operation | Fluorocarbon Diaphragm |
| Port Threads | 1/2 Inch |
| Pressure & Temperature Ratings – | |
| Metal Bowl (D)..... | 300 PSIG Max (20.7 bar) |
| Metal Bowl (W) | 0°F to 150°F (-18°C to 66°C) |
| Automatic Float Drain..... | 0 to 250 PSIG (0 to 17.2 bar) |
| Automatic Float Drain..... | 0°F to 150°F (-18°C to 66°C) |
| Automatic Float Drain..... | 15 to 175 PSIG (1 to 12 bar) |
| Automatic Float Drain..... | 40°F to 125°F (4°C to 52°C) |
| Note: Air must be dry enough to avoid ice formation at temperatures below 32°F (2°C). | |
| Sump Capacity | 1.7 Ounce |
| Weight | 2.42 lb. (1.09 kg) |

Compressed Air Filters

Automatic Drains - High and Normal Capacity

High Capacity Electric Solenoid Drain

The Balston Automatic Drain Assembly, P/N 20-440 automatically removes water from Balston filter housings. The autodrain consists of a solenoid valve and an automatic timer that can be adjusted to the desired cycle time and is powered by 120 VAC. To drain receiving tanks, use any commercially available Y-strainer (ex. Keystone 911 Series or Watts Model 7771) to protect the 20-440.



20-440



20-211

High Capacity Non-Electrical Float Drain

In the 20-211 design, a sealed stainless steel float operates a needle valve by means of a lever. All internal parts are stainless steel. The 20-211 drain is a rugged design for high volumes of liquid.

Normal Capacity Non-Electrical Float Drain

In the 20-402 design, a float rises to operate a pilot-controlled valve when the liquid level in the body of the drain reaches a predetermined level. The float is reseated by the force of line pressure as soon as the liquid is drained.



20-402

Principal Specifications and Ordering Information

| Model | 20-211 | 20-440 | 20-402 |
|---------------------|-------------------------------|---------------------------|--------------------------|
| Port Size | 1/2" NPT | 1/4" NPT | 1/4" NPT |
| Maximum Pressure | 440 psig (27.6 barg) | 300 psig (20.7 barg) | 200 psig (13.8 barg) |
| Minimum Pressure | 10 psig (0.69 barg) | 20 psig (1.4 barg) | 40 psig (2.8 barg) |
| Maximum Temperature | 500°F (260°C) | 122°F (50°C) | 130°F (54°C) |
| Shipping Weight | 2 lbs. (0.9 kg) | 2 lbs. (0.9 kg) | 2 lbs. (0.9 kg) |
| Dimensions | 2.5"W X 7.3"L (6cm X 19cm) | 3"W X 4"L (7cm X 10cm) | 3"W X 4L (7cm X 10cm) |

Compressed Air Filters

Condensate Drains - Zero Air / Zero Energy Loss

What is a zero air loss condensate drain?

Zero air loss condensate drains are designed for economical removal of unwanted water, oil emulsions, and other liquids. These drains will only open when liquid is present and will not allow any compressed air to escape from the system.

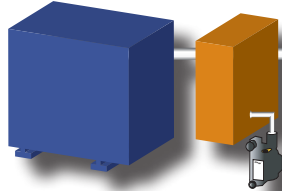


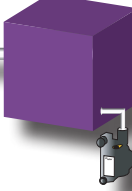

Why are they needed?

- Condensate is always present in a compressed air system.
- If condensate is not removed from a compressed air system, it will adversely affect product quality and production efficiency and will eventually lead to costly downtime.



Compressed Air Filters

Where are condensate drains used?

| | | | | |
|--|---|--|--|--|
|  |  |  |  |  |
| Compressor with Aftercooler | Receiver Tank | Filter | Air Dryer | Drip Leg |
| Removes the condensate that is collected after the air cools in the aftercooler | Removes the condensate that is collected when the air cools inside of the receiver tank | Removes the condensate that is collected in the filter bowl | Removes the condensate that is collected in the air dryer | Point-of-use applications: removes the condensate from compressed air pipes in a plant |

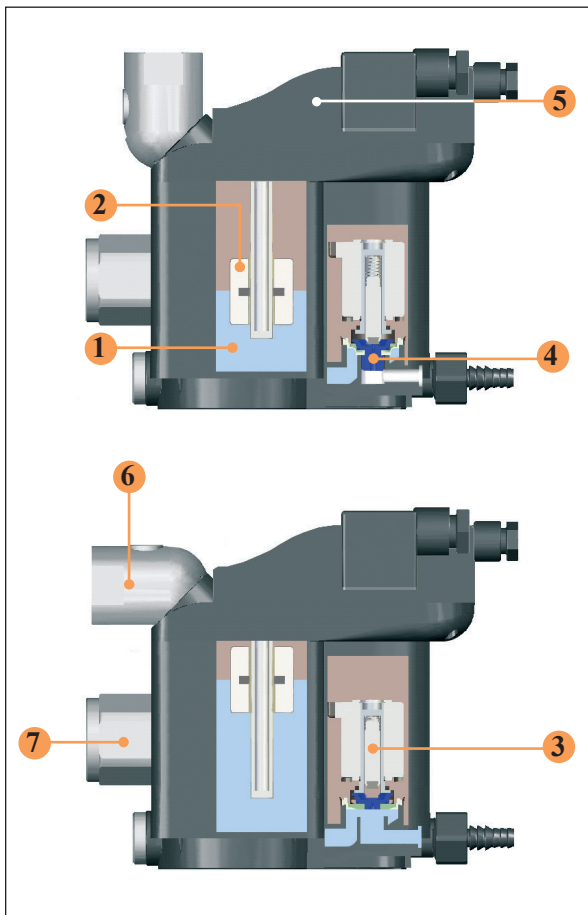
How does the Zero Air Loss Condensate drain compare to other drains?

| Condensate Removal Method | Disadvantages of Other Drains | Advantages of ZLD |
|--|---|--|
| Manual Drain (operators must manually open valves to discharge condensate) | <ul style="list-style-type: none"> • Requires constant attention • Always leads to excess air loss because air escapes when the valve is left open to drain the condensate | <ul style="list-style-type: none"> • Automatically drains condensate • When a minimum level of condensate is reached, the valve closes in time before compressed air can escape |
| Float Drain (uses a float connected to a drain valve that opens when enough condensate is present and closes when condensate has been removed) | <ul style="list-style-type: none"> • Float is susceptible to blockage from particulate contamination in condensate • Often sticks in open (leaks excess air) or closed position (no condensate is drained) | <ul style="list-style-type: none"> • Includes an integrated dirt screen between the level measurement and drain valve to protect the diaphragm valve • Particulate contamination is removed by the integrated dirt screen before fouling the moving parts |
| Solenoid Operated Drain Valves (uses a timer which allows user to open and close valve at specified intervals) | <ul style="list-style-type: none"> • The period for which the valve is open might not be long enough for adequate drainage of accumulated condensate • The valve will operate even if little or no condensate is present, resulting in air loss • Often requires a strainer to remove particulate contamination which can block the inlet and outlet ports | <ul style="list-style-type: none"> • Drain will remove condensate when liquid reaches the high level sensor • The drain will not operate until the liquid level reaches the high level sensor • Particulate contamination is removed by the integrated dirt screen before fouling the outlet port |

Compressed Air Filters

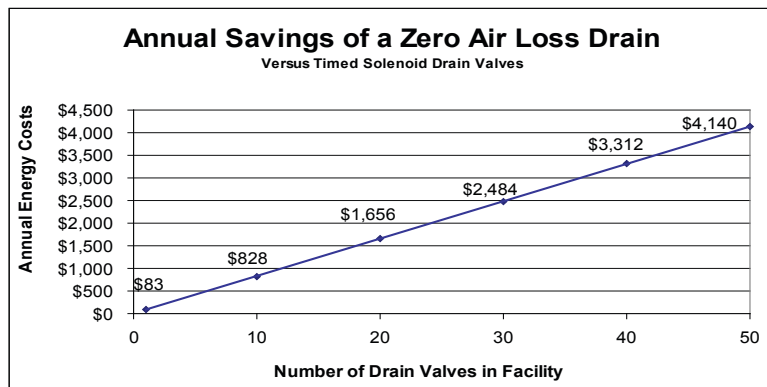
Condensate Drain - Zero Air / Zero Energy Loss

How does this drain work?



- 1 This collection vessel stores condensate until it is drained away.
- 2 This electronic level controller continuously monitors the liquid level inside the drain.
- 3 This depicts the electric drain valve. As soon as the electronic level controller detects a buildup of liquid, the valve opens and condensate is drained. When a minimum liquid level is reached, the valve closes before compressed air can escape.
- 4 The diaphragm valve ensures that contaminants are flushed out and that the condensate is prevented from forming an emulsion that would need expensive condensate treatment.
- 5 If an error has occurred (i.e. if the condensate cannot be discharged), the electronic control board (5) of the condensate drain generates an alarm signal. This allows timely detection of a problem and helps avoid excessive costs associated with condensate carryover to downstream components.
- 6 Unique swivel inlet connection for easy adaptability on 20-613 and 20-623. This allows the condensate line to be connected from the top or the rear. The 20-606 has a fixed inlet port with dynamic seal which allows the filter bowl to be removed while the drain is attached (not shown).
- 7 An additional liquid inlet on the 20-623 allows for the connection of a balance or vent line. This provides new connections so that condensate can no longer back up into the feed lines.

The cost of compressed air when using a timed drain valve



The annual cost of compressed air was calculated using data from the U.S. Department of Energy and several compressed air consultants. The average annual energy cost to maintain a compressed air system is \$0.23 per 1000 ft³. If a timed solenoid drain valve opens 3-4 times per hour, the cost of the wasted air will be \$80 per valve, per year.

Zero Loss Drains don't waste any compressed air and have a payback of approximately 6 months - 1 year.

Easy
installation &
servicing!

Compressed Air Filters

Condensate Drain - Zero Air / Zero Energy Loss

Dimensions and Specifications

Compressed Air Filters



20-606

Dimensions (Inches/cm)



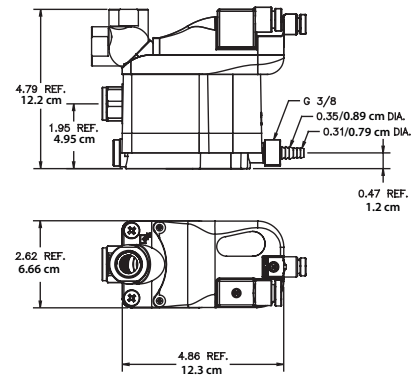
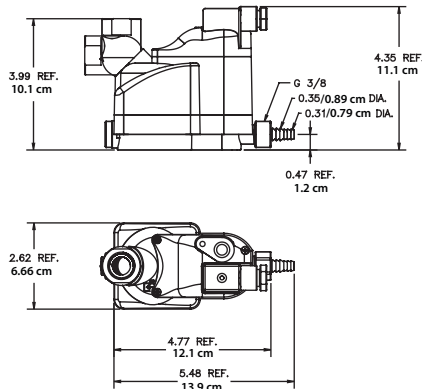
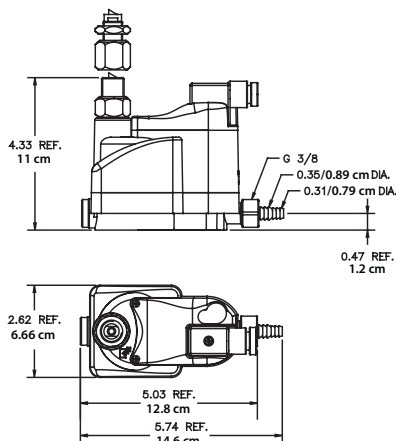
20-613

Dimensions (Inches/cm)



20-623

Dimensions (Inches/cm)



| Model Number | Maximum Compressor Capacity | Maximum Refrigerated Dryer Capacity ¹ | Maximum Filter Capacity ² | Pressure Range | Temperature Range | Connection Size | Drain Capacity | Electrical Requirement |
|--------------|----------------------------------|--|--------------------------------------|-----------------------------|-----------------------|-----------------|------------------------------|---------------------------|
| 20-606 | Not Recommended | Not Recommended | 424 SCFM (720 m ³ /h) | 3 - 232 PSIG (0.2 - 16 bar) | 35 -140°F (2 - 60 °C) | 3/8" NPT | 6 Gallons/23 liters per day | 120V _{AC} (60Hz) |
| 20-613 | 141 SCFM (240 m ³ /h) | 283 SCFM (480 m ³ /h) | 1413 SCFM (2,400 m ³ /h) | 3 - 232 PSIG (0.2 - 16 bar) | 35 -140°F (2 - 60 °C) | 1/2" NPT | 13 Gallons/49 liters per day | 120V _{AC} (60Hz) |
| 20-623 | 247 SCFM (420 m ³ /h) | 494 SCFM (840 m ³ /h) | 2472 SCFM (4,200 m ³ /h) | 3 - 232 PSIG (0.2 - 16 bar) | 35 -140°F (2 - 60 °C) | 1/2" NPT | 23 Gallons/87 liters per day | 120V _{AC} (60Hz) |

¹Based on 100 psi (6.9 bar) working pressure, air compressor inlet at 77°F (25°C) at 60% RH, air discharge temperature of 95°F (35°C) following the aftercooler, pressure dewpoint of 37°F (2.8°C) after the refrigerated dryer.

²Condensate from aftercooler or refrigerated dryer to be drained upstream – only for residual oil content or small quantities of condensate.

Note: Drains are available with BSP threads; 24V/50 - 60Hz versions are available; 24V DC on request. A 6 ft. (2 m) line cord will be included with each drain.

Compressed Air Filters

Differential Pressure Indicator Kit

Balston Differential Pressure Indicator

The Balston Differential Pressure Indicator (DPI) is used to monitor the pressure drop across the filters or other components in a compressed air system. The DPI is sensitive in the range of 0 to 5 psi differential.

Principal Specifications & Ordering Information

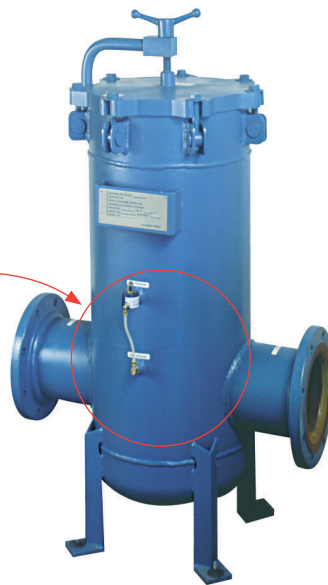
| Model | 41-070 | C02-2377 |
|------------------------------------|------------------------------|-------------------------------|
| Differential Pressure Indicator | 41-070 | C02-2377 |
| Indicator and Installation Kit (1) | 41-071 | N/A |
| Port Size | 1/8" NPT | 3/8"-24 |
| Maximum Pressure | 250 psig (17.2 barg) | 250 psig (17.2 barg) |
| Maximum Temperature | 130°F (54°C) | 130°F (54°C) |
| Dimensions | 1.7"W X 1.8"H (4cm X 5cm) | 2.9"W X 2.25"H (7cm X 6cm) |

Note

1 Installation kit includes fittings and tubing necessary for line-mounting the 41-070 DPI



41-070



41-070 Mounted on Filter Assembly



C02-2377

Compressed Air Filters

Miniature Disposable Filter Units Constructed of Nylon and PVDF

Models 9922-05, 9933-05, 4433-05 and 9900-05

The 99XX-05 Models are the smallest Disposable Filter Units with 0.4 oz (11.7 ml) internal volume. These models are used in low flow gas or liquid sampling applications, such as liquids to specific-ion analyzers or gases to personal samplers. The Model 4433-05 has 1/4" and 3/8" barb connections molded into the inlet/outlet ports. The 9900-05 and 4433-05 are available with a color indicator that turns red when saturated with oil.

Models 9922-11 and 9933-11

Models 9922-11 and 9933-11 are used for applications similar to the smaller DFUs (Models 9922-05 and 9933-05) which require greater solids holding capacity and can tolerate the increased retention time.

Model 8833-11

These Disposable Filter Units are used as continuous coalescing filters with a third port serving as the drain, slip-stream, or by-pass port.



Model 99XX-05

Model 9922-05

Model 8833-11

Compressed Air Filters

Retention Efficiency

| Model | Efficiency for 0.01 Micron Particles and Droplets |
|------------|---|
| DX, DQ | 93% |
| BX, BK, BQ | 99.99% |

Table 1

Flow Rates Air Flow at 2 psi (0.14 bar) drop, standard cu. ft. (normal cubic meters) per min. SCFM (Nm³/hr) at indicated line pressure

| Filter Housing Type | Volume of Housing (CU. FT.) | Filter Tube Grade | Flow Rate (CFM) At 10" Water Press. Drop., 0 PSIG (barg) | Flow Rate (SCFM) at indicated line pressure | | | | | | |
|---------------------|-----------------------------|-------------------|--|---|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
| | | | | 2 psig (0.14 barg) | 20 psig (1.4 barg) | 40 psig (2.8 barg) | 60 psig (4.1 barg) | 80 psig (5.5 barg) | 100 psig (6.9 barg) | 125 psig (8.6 barg) |
| 9900-05 | 0.0004 | DQ | 0.2 (0.23) | 1.2 (1.40) | 2.5 (2.92) | 3.9 (2.56) | 5.4 (6.32) | 6.8 (7.96) | 8.3 (9.71) | 10.1 (11.82) |
| 9922-05 | | BQ/BK (1) | 0.1 (0.12) | 0.8 (0.94) | 1.6 (1.87) | 2.6 (3.04) | 3.5 (4.09) | 4.5 (5.26) | 5.4 (6.32) | 6.6 (7.72) |
| 9933-05 4433-05 | | | | | | | | | | |
| 8822-11 | 0.0007 | DX | 0.4 (0.47) | 1.8 (2.11) | 3.6 (4.21) | 6 (7.02) | 8 (9.36) | 10 (11.70) | 12 (14.04) | 14.6 (17.08) |
| 8833-11 | | BX | 0.2 (0.23) | 0.9 (1.05) | 1.8 (2.11) | 3 (3.51) | 4 (4.68) | 5 (5.85) | 6 (7.02) | 7.3 (8.54) |
| 9922-11 | | | | | | | | | | |

1 BK = Red color indicator when saturated with oil.

Installation Information

Compression fittings for 1/4" O.D. tubing may be obtained from the following manufacturers: Hoke, Inc. (Gyrolock); Crawford Fitting Co. (Swagelok); Parker-Hannifin Corp. (CPI); Legris, Inc. (push-on fittings); Jaco Mfg. Co. (plastic fittings).

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 Corp.

Connector 1/4" tubing to 1/4" NPT, female - P/N 11970

Connector 1/4" tubing to 1/4" tubing - P/N 11971

Elbow 1/4" tubing to 1/8" NPT female (for manual drain on Type 8833-11) - P/N 11972

For connections to low pressure plastic tubing

Tubing with 1/4" ID may be slipped over the DFU end fittings and held with tubing clamps. Parker Hannifin Corp. supplies plastic barbs to connect the DFU to smaller diameter plastic tubing. The connection is suitable for pressures to 50 psig.

DFU to 1/16" ID tubing P/N 14000 (bag of 20 barbs)

DFU to 1/8" ID tubing P/N 14001 (bag of 20 barbs)

Parker Hannifin Corp. also offers a manual drain valve for removal of coalesced liquids from the Type 8833-11-DX

Drain Valve 1/8" NPT (male) x 1/8" ID tubing (requires fitting part 11977) P/N 20120

Compressed Air Filters

Miniature Disposable Filter Units Constructed of Nylon and PVDF

Principal Specifications

| Model | 9922-05 | 9900-05, 9933-05 | 4433-05 | 9922-11 | 9933-11 | 8833-11 |
|--------------------------|-----------------------------------|-----------------------------------|--|-----------------------------------|----------------------------------|-----------------------------------|
| Inlet and Outlet Ports | 1/4" Tubing | 1/4" Tubing | 1st Tier/Barb 1/4" Tube 2nd Tier/Barb 3/8" Tube | 1/4" Tubing | 1/4" Tubing | 1/4" Tubing |
| Drain | None | None | None | None | None | 1/4" Tubing |
| Material of Construction | PVDF | Nylon | Nylon | PVDF | Nylon | Nylon |
| Filter Cartridge Length | 1.25" (3.2 cm) | 1.25" (3.2 cm) | 1.25" (3.2 cm) | 2.25" (5.7 cm) | 2.25" (5.7 cm) | 2 1/4" |
| Maximum Temperature | 275°F (135°C) (1) | 230°F (110°C) (1) | 230°F (110°C) (1) | 275°F (135°C) (1) | 230°F (110°C) (1) | 230°F (110°C) (1) |
| Maximum Pressure | 125 psig/8.62 barg (2) | 125 psig/8.62 barg (2) | 125 psig/8.62 barg (2) | 125 psig/8.62 barg (2) | 125 psig/8.62 barg (2) | 125 psig/8.62 barg (2) |
| Dimensions | 1.0"D X 3.25"L (2.5 cm X 6 cm) | 1.0"D X 3.25"L (2.5 cm X 6 cm) | 1.0"D X 3.43"L (2.5 cm X 8.72 cm) | 1.4"D X 4.6"L (9.1 cm X 12 cm) | 1.4"D X 4.6"L (9.1cm X 12 cm) | 1.4"D X 4.6"L (9.1 cm X 12 cm) |

Ordering Information

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

| Model | 9922-05 | 9900-05 | 4433-05 | 9933-05 | 9922-11 | 9933-11 | 8833-11 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Filter Cartridges Box of 10 Available in types Q and X | 9922-05-□ (3) | 9900-05-□ (3) | 4433-05-□ (3) | 9933-05-□ (3) | 9922-11-□ (3) | 9933-11-□ (3) | 8833-11-□ (3) |

Notes:

1 At 0 psig

2 At 110°F (43°C)

3 To designate the grade of filter tube in the DFU, insert Grade letters after DFU designation. For example, to obtain a grade BQ filter tube in a DFU 9922-05, order: 9922-05-BQ. Please note the following limitations:

| DFU | Supplied With These Grades |
|------------------------------------|----------------------------|
| 4433-05, 9900-05, 9922-05, 9933-05 | DQ, BQ, AQ (BK) (4) |
| 9922-11, 9933-11 | DX, BX, AQ |
| 8822-11, 8833-11 | DX, BX |

4 BK Grade has a color indicating feature, which turns the cartridge red when saturated with oil. Available only in types 4433-05 and 9900-05.

Application Notes

Sample Filters

Balston Sample Filters Protect Sensitive Analyzers

Balston Gas and Liquid Sample Analyzer Filters protect analyzers from sample impurities by removing solids and liquids from gases with 99.99999+% efficiency at 0.01 micron. Balston Sample Filters offer liquid filtration to 1 micron or lower. Composed of borosilicate glass microfibers with a resin binder, Balston sample filters are inert to most any gas or liquid.

To satisfy the extremely wide range of requirements for analyzer sample filters, Parker Hannifin Corporation supplies a complete line of filter housings in stainless steel, polypropylene, and other corrosion resistant materials, as well as a choice of high efficiency filter elements which are inert to most all liquids and gases.



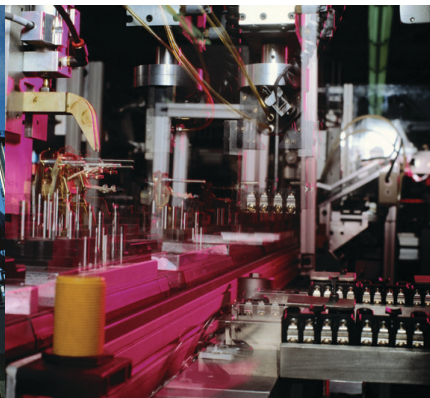
Product Features

- Remove liquids and solids from gas samples
- Remove solids and gas bubbles from liquid samples
- Coalesce and separate two liquid phases
- Filter solids and liquids from gases with 99.99999+% efficiency at 0.01 μm
- Temperature resistance to 900°F (482°C)
- Low pressure drop
- Long life between filter element changes

Emissions Monitoring and Analysis



Process Instrumentation and Controls



Slip Stream and By-Pass Sampling Filtration



Specialty Gas and Chemical Filtration

