

Parker Filtration 2000 Series Compressed Air and Balston Sterile Air Filters

These instructions must be thoroughly read and understood before installing and operating this product. If you have any questions or concerns, please call the Technical Services Department at 800-343-4048, 8AM to 5PM Eastern Time (North America only). For other locations, please contact your local representative. Send email to: BalstonTechSupport@Parker.com.

General

When properly installed on a compressed air or gas line, Balston in-line filters effectively remove oil, water, and particulate contamination from a gas supply. The quantity of oil and water and the size of the particulate contamination removed from a gas supply is dependent upon the grade of Balston filter cartridge installed in a Balston filter housing.



Warning: Do not expose filter assemblies with plastic or nylon components to solvents, alcohols, or glycols. Exposure to these materials could cause failure of the housing. Use only non-detergent mineral base oils with housings containing polycarbonate components. Use of any other types of oils could lead to dangerous failure of the product.



To avoid personal injury and/or property damage resulting from over pressurizing the housing, Parker recommends that the customer install a pressure relieving device set at 125% of the maximum pressure rating of the housing.

Filter Housing Installation

Filter housings are pressure vessels and all system connections and accessory outlets must be leak-tight. It is good practice to apply pipe sealant to the male threads before connecting the pipe to the filter ports. Any lubricant used must be compatible with the filtered media. The use of lubricant facilitates disassembly at a later time, if necessary.

In general, for most applications, the flow direction through the filter cartridge should be from the **inside-to-outside**. Some Balston filters have a flow arrow indicating the flow direction from inside-to-outside through the cartridge.

For coalescing applications, the flow of compressed gas through the filter cartridge should be from inside-to-outside. Suspended liquids will be coalesced throughout the cartridge and will drain from the outside of the cartridge into the bowl of the filter assembly. Accumulated liquids may be drained from the filter bowl by automatic or manual drains. For more details on coalescing filtration and liquid drains, request Catalog FNS1.

For installations where the compressed gas is sourced from an overhead line, the gas should be piped from the top of the header to the filter. In this way, excessive moisture and dirt are not gravity-fed to the Balston in-line filter. For installations in which long runs of piping carry filtered gas from the filter to the point of use, filters should be located as close to the point of use as possible to trap condensation and particulate which may have been picked up in the pipe.

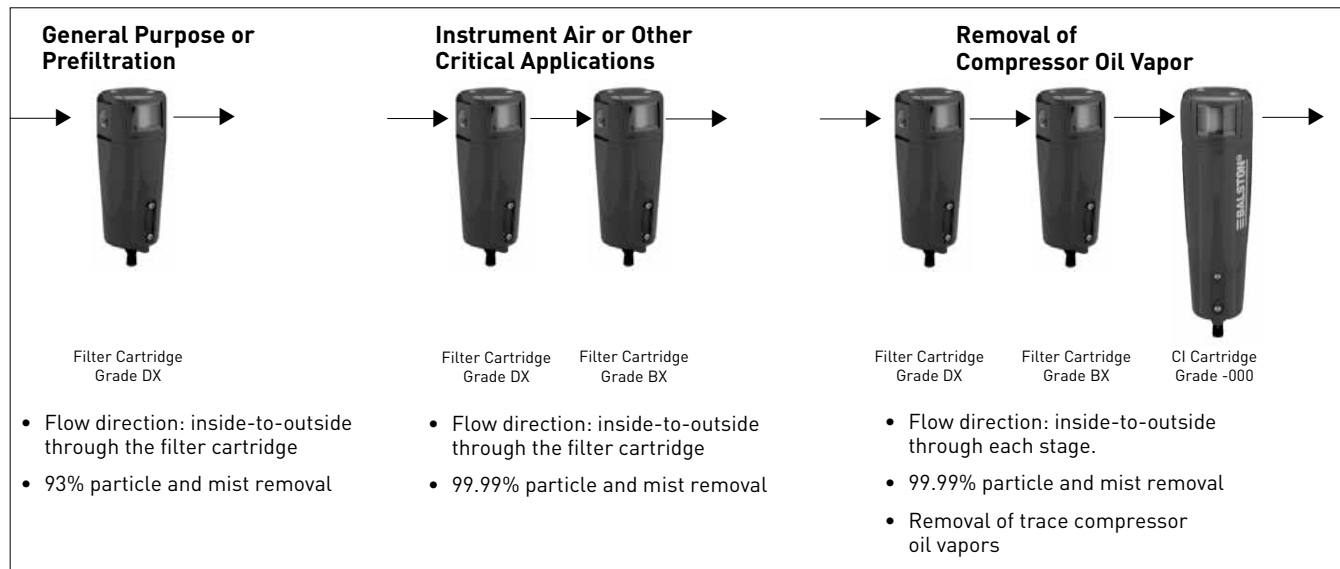
Mounting bracket kits are available for most Balston filters. Some Balston filter assemblies may be pipe mounted if the size and weight of the housing and piping permit it. All fittings must be leak tight before applying gas pressure to the filter.



Do not install Balston 2000 Series, 914 Series, or 15/80 Series filter housings in corrosive environments.

Operation and Maintenance

The Schematic shows typical schematic installations for three commonly required coalescing applications in compressed air systems.



All installation and maintenance activities should be performed by suitable personnel using reasonable care. Turn off the compressed gas supply and depressurize the filter housing prior to performing routine maintenance. The 2000 Series is equipped with a vent valve at base of the bowl which can be used to depressurize the housing.

Filter Cartridge Installation

Most Balston filter housings are ordered separately from Balston filter cartridges. Balston 2000 Series coalescing filter assemblies (e.g., 2104N-1B1-DX), however, are shipped from the factory with the filter cartridge installed. Balston 2000 Series adsorbent filter assemblies (e.g., 2104N-0A0-000) are shipped from the factory with the adsorbent filter packaged separately from the filter housing. The adsorbent cartridge must be installed into the housing prior to installing the housing on the compressed air line. This packaging procedure extends the life of the cartridge by preventing exposure to the atmosphere prior to initial use.

An adhesive-backed label indicating the grade of the filter cartridge is packed with each box of filter cartridges. This label should be affixed to the filter housing when the first filter cartridge is installed. Using the cartridge grade label will help ensure that the correct filter cartridge is used when maintenance is performed on the housing. The date that the replacement cartridge is installed may be recorded, with a marking pen or grease pencil, on the filter housing label to provide a ready reference for scheduling routine maintenance.

Balston Microfibre® filter cartridges are sealed in place by compression against a flat surface. Gaskets are not required between the filter cartridge and the filter housing. The filter cartridge is centered by guides on the housing which fit the inside diameter of the cartridge at each end. In most Balston housing designs, the filter cartridge is sealed by tightening a threaded element retainer on a tie rod. Do not use excessive force or tools on the element retainer. The filter cartridge is securely sealed by tightening the element retainer 1-1/2 to 2 turns after it first contacts the filter cartridge. **[Note:** In high flow, multi-cartridge housings, it may be necessary to tighten the element retainer 3 to 4 turns after contact with the filter cartridge.]



Proper Replacement of the Filter Bowl requires the sightglass to be aligned perpendicular with the Differential Pressure Indicator or at a 90° position from inlet/outlet pipe. Failure to replace the filter bowl in the locked position as described above could result in catastrophic failure and personal injury (see Figure 1 on Page 3).



Always replace the filter bowl guard, when applicable, after servicing the Balston filter.



Warning: Prior to re-installing the bleed screw after depressurization of the filter housing, ensure that the seal is properly seated in the o-ring groove. Failure to install the o-ring properly could result in damage to the seal and leakage from the bleed screw.

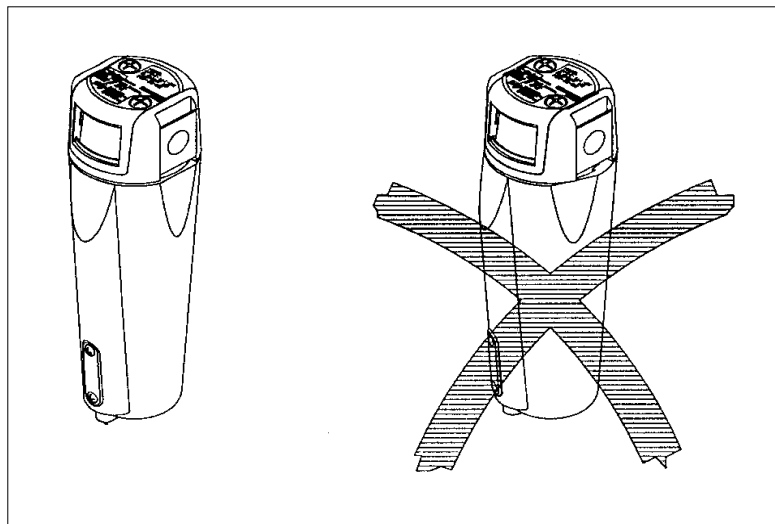


Figure 1 - Proper Bowl Replacement

Filter Cartridge Life

The efficiency of the Balston Microfibre filter cartridge is relatively unaffected by liquids entrained in the compressed air or gas stream. The life of the filter cartridge is determined by the increase in flow resistance caused by solids trapped within the depth of the filter cartridge. The change in pressure through the filter cartridge should be monitored while the filter is in use. The filter cartridge should be changed every 12 months. [Note: The Balston Microfibre filter cartridge cannot be cleaned by back-flushing because the solids are trapped within the depth of the cartridge, not on the surface.]

Changing filter cartridges more frequently will translate into direct energy savings and reduced operating costs. Annual electricity costs to operate a typical 100 HP compressor can be as high as \$50,000. Pressure drop in the system adds to this expense. A system operating at 100 psig that is experiencing a 2 psig pressure drop through a filter, requires an additional 1% in operating energy costs or approximately \$500.00+ per year.

Failure of the filter cartridge resulting from a high pressure drop or excessive solids loading may cause damage to the filter housing and/or any downstream equipment.

In many applications, the pressure drop through the filter assembly may be measured using two pressure gauges, one directly upstream from the filter assembly, and one directly downstream from the filter assembly. In compressed air filtration, however, the pressure drop through the filter assembly is difficult to measure in this way because of inaccuracies in the pressure gauges and rapid fluctuations in system pressure. For monitoring pressure drop through a compressed air filter assembly, use a differential pressure indicator. All 2000 Series and 15/80 Series are available with factory installed differential pressure indicators. Please refer to Catalog FNS 1 for more details on the Balston Differential Pressure Indicator.

Ordering Replacement Filter Cartridges

Some Balston filter assemblies have filter cartridges installed when shipped from the factory. If filter cartridges are being ordered separately, specify both the size and grade of the filter cartridge. Filter cartridges for compressed air and gas filter assemblies are available in boxes of 3 (except X-Grade), 5, or 10. The size of the filter is designated by a three-digit number followed by a two digit number (e.g., 100-12, 150-19, 200-80). The retention efficiency of the filter is designated by a series of letters or numbers following the size designation (e.g., 100-12-DQ, 150-19-BX, 200-80-SA).

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

Ordering Filter Assembly Replacement Parts

A drawing and a replacement parts list for the 2000 series filter assemblies are shown on pages 6-7. When ordering replacement parts, order by part number and description, as detailed on the replacement parts drawing shipped with the filter. Inspect all seals when changing filter cartridges and replace as needed. Lubricate all replacement seals prior to installation. Use a lubricant which is compatible with the gas being filtered.

Accessories

Automatic Float Drains

If the filter housing is ordered with an automatic float drain, the drain is installed at the factory.

Float drains are available on select assemblies with DX or BX cartridges. They are not available for assemblies with grade CI adsorbent cartridges, grade SA sterile air cartridges, or with the smaller volume housings.

If the filter housing is not equipped with a drain, several different drain assemblies are available which may be integrated into the housing. See Catalog FNS 1 or contact your local stocking representative for details.

Differential Pressure Indicators (DPI)

Most Balston Compressed Air Filter Assemblies are shipped with Differential Pressure Indicators (DPIs) installed. The DPI monitors the pressure drop across the filter, and may be used to measure pressure drop across other components in the compressed air system. Differential Pressure Indicators may also be purchased as accessories for other Balston filter assemblies. Two different models of DPIs are available: 41-071 and 41-082. More information on these products may be found in Catalog FNS 1.

Connect the indicator to the HIGH (upstream) and LOW (downstream) sides of the line as indicated by the marking on the indicator.

The Balston Differential Pressure Indicators give a quick visual indication of the pressure drop in the line. It is not intended to be an accurate pressure gauge.

Ordering Information

Model	Ports	Maximum Pressure	Maximum Temperature
41-071	1/8" NPT	250 psig	130°F (54°C)
41-082	3/8"-24 UNF (1)	300 psig	150°F (65°C)

Notes:

1 If the 41-082 DPI is not mounted on the filter housing, a mounting block (P/N 76256) must be ordered.

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

Figure 2 - Mounting Bracket Installation

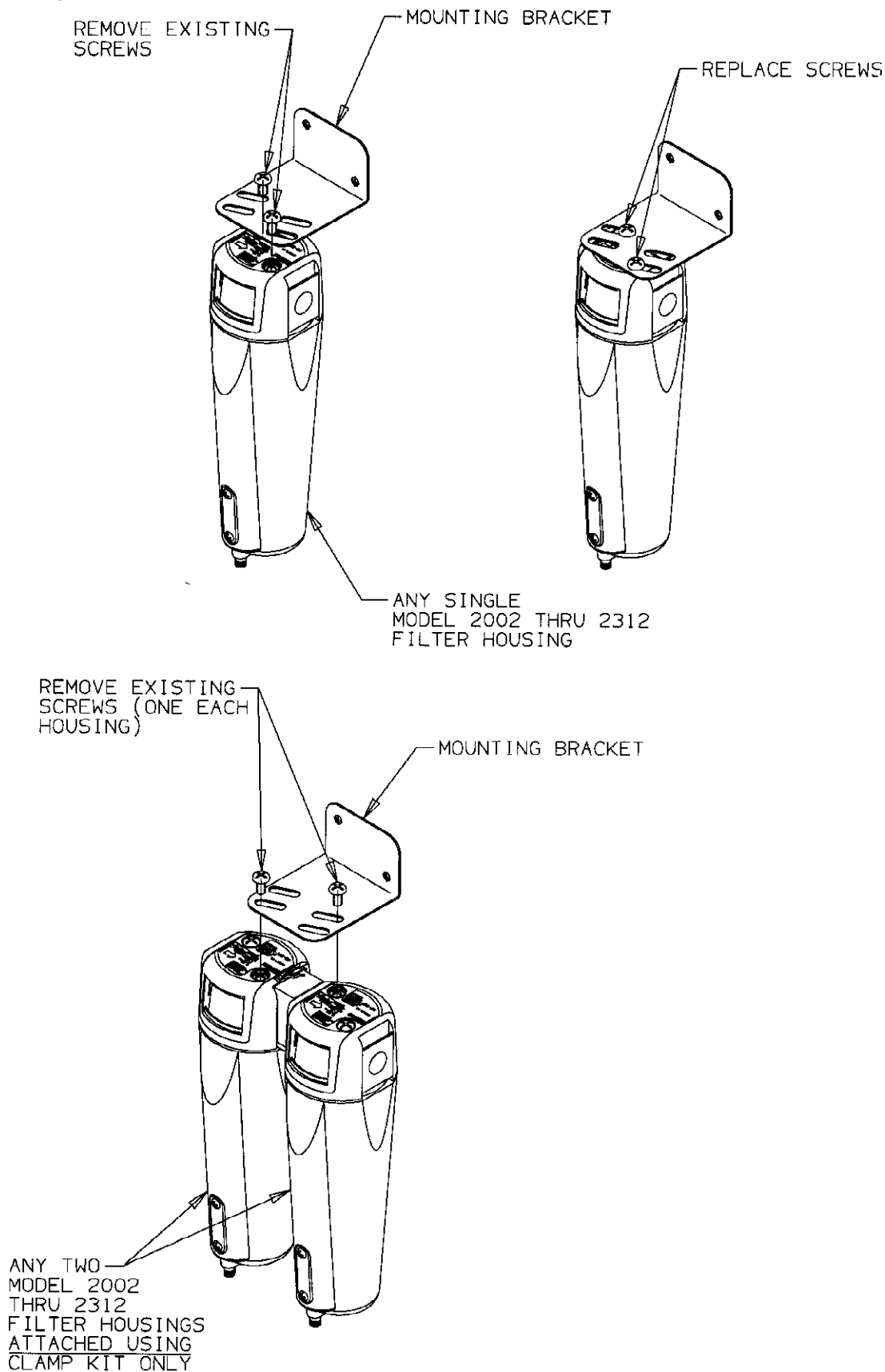
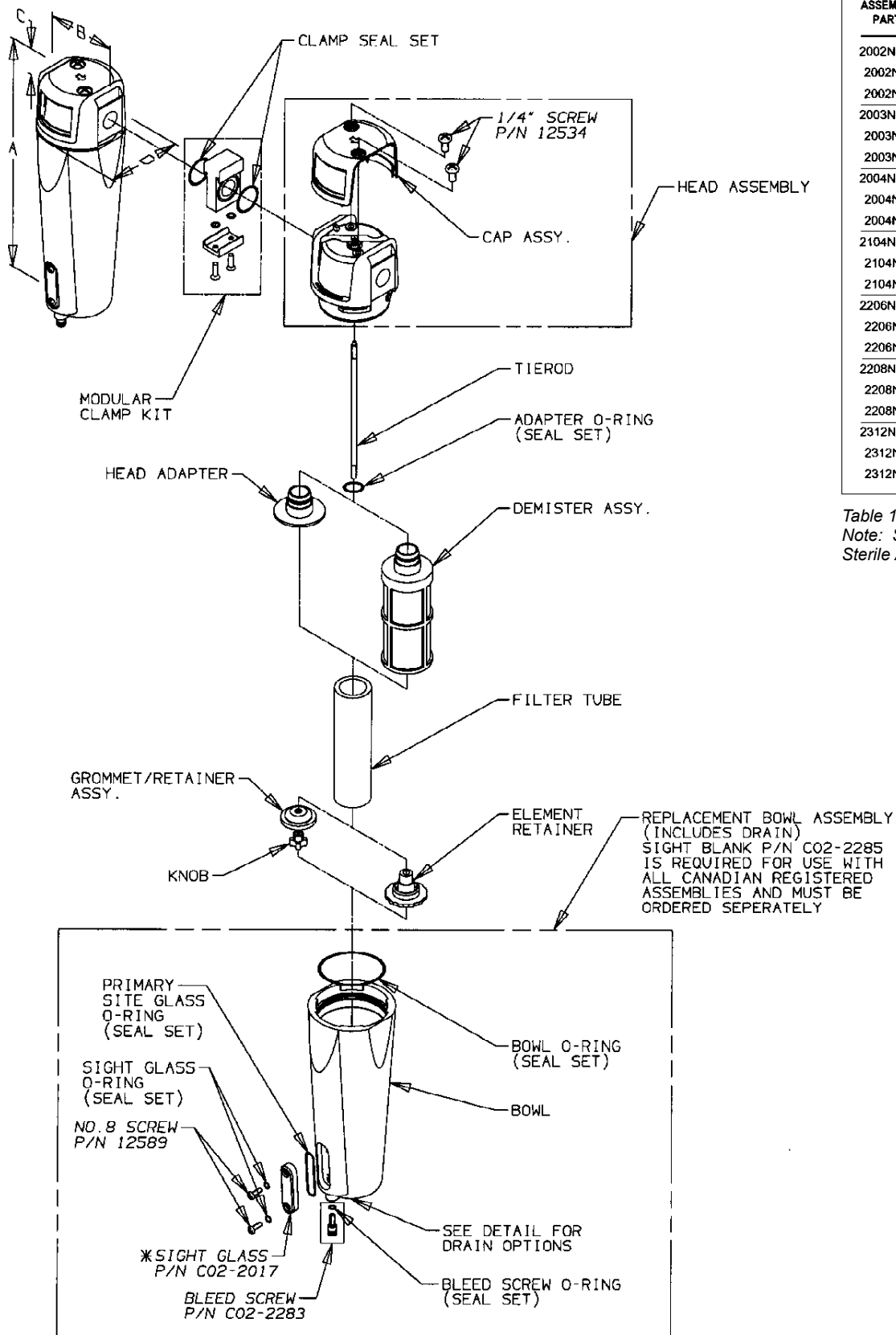


Figure 3 - Exploded Parts View



ASSEMBLY PART NO	HEAD ASSEMBLY	CAP ASSEMBLY	TIEROD	HEAD ADAPTER
2002N-0A0-000	C02-2160	C02-2157	C02-2020	91410
2002N-1B_{-}	C02-2027	C02-2026	C02-2020	-----
2002N-2B_{-}	C02-2090	C02-2026	C02-2020	-----
2003N-0A0-000	C02-2161	C02-2157	C02-2020	91410
2003N-1B_{-}	C02-2120	C02-2026	C02-2020	-----
2003N-2B_{-}	C02-2132	C02-2026	C02-2020	-----
2004N-0A0-000	C02-2162	C02-2157	C02-2020	91410
2004N-1B_{-}	C02-2028	C02-2026	C02-2020	-----
2004N-2B_{-}	C02-2092	C02-2026	C02-2020	-----
2104N-0A0-000	C02-2162	C02-2157	C02-2022	91410
2104N-1B_{-}	C02-2028	C02-2026	C02-2021	-----
2104N-2B_{-}	C02-2092	C02-2026	C02-2021	-----
2206N-0A0-000	C02-2163	C02-2158	C02-2066	62451
2206N-1B_{-}	C02-2070	C02-2069	C02-2066	-----
2206N-2B_{-}	C02-2107	C02-2069	C02-2066	-----
2208N-0A0-000	C02-2164	C02-2158	C02-2066	62451
2208N-1B_{-}	C02-2071	C02-2069	C02-2066	-----
2208N-2B_{-}	C02-2109	C02-2069	C02-2066	-----
2312N-0A0-000	C02-2165	C02-2159	C02-2084	60451
2312N-1B_{-}	C02-2088	C02-2087	C02-2084	-----
2312N-2B_{-}	C02-2118	C02-2087	C02-2084	-----

Table 1: Spare Parts Table, 2000 Series
 Note: See Pages 10 and 11 for "SA" Sterile Air Filters

* = ASSEMBLIES WITH CANADIAN REGISTRATION
 MUST USE SIGHT BLANK P/N C02-2302

DEMISTER ASSEMBLY	FILTER TUBE	ELEMENT RETAINER	GROMMET RETAINER	NOB	BOWL	SEAL SET (BUNA)	SEAL SET (VITON)	CLAMP KIT	CLAMP SEAL SET (BUNA)	CLAMP SEAL SET (VITON)	MOUNTING BRACKET	DIM A	DIM B	DIM C	DIM D	PORT SIZE
-----	CI100-12-000	91960	-----	-----	C02-2023	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/4" NPT
91450	100-12-[]	91960	-----	-----	C02-2023	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/4" NPT
91450	100-12-[]	91960	-----	-----	C02-2023	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/4" NPT
-----	CI100-12-000	91960	-----	-----	C02-2023	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	3/8" NPT
91450	100-12-[]	91960	-----	-----	C02-2023	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	3/8" NPT
91450	100-12-[]	91960	-----	-----	C02-2023	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	3/8" NPT
-----	CI100-12-000	91960	-----	-----	C02-2023	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/2" NPT
91450	100-12-[]	91960	-----	-----	C02-2023	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/2" NPT
91450	100-12-[]	91960	-----	-----	C02-2023	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/2" NPT
-----	CI100-25-000	91960	-----	-----	C02-2024	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	10.29(261.4)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/2" NPT
91450	100-18-[]	91960	-----	-----	C02-2024	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	10.29(261.4)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/2" NPT
91450	100-18-[]	91960	-----	-----	C02-2024	A05-0001	A05-0002	C02-2091	A05-0007	A05-0008	C02-2123	10.29(261.4)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/2" NPT
-----	CI150-19-000	62960	-----	-----	C02-2067	A05-0003	A05-0004	C02-2121	A05-0009	A05-0010	C02-2124	12.10(307.3)	4.00(101.6)	1.52(38.6)	4.38(111.1)	3/4" NPT
62450	150-19-[]	62960	-----	-----	C02-2067	A05-0003	A05-0004	C02-2121	A05-0009	A05-0010	C02-2124	12.10(307.3)	4.00(101.6)	1.52(38.6)	4.38(111.1)	3/4" NPT
62450	150-19-[]	62960	-----	-----	C02-2067	A05-0003	A05-0004	C02-2121	A05-0009	A05-0010	C02-2124	12.10(307.3)	4.00(101.6)	1.52(38.6)	4.38(111.1)	3/4" NPT
-----	CI150-19-000	62960	-----	-----	C02-2067	A05-0003	A05-0004	C02-2121	A05-0009	A05-0010	C02-2124	12.10(307.3)	4.00(101.6)	1.52(38.6)	4.38(111.1)	1" NPT
62450	150-19-[]	62960	-----	-----	C02-2067	A05-0003	A05-0004	C02-2121	A05-0009	A05-0010	C02-2124	12.10(307.3)	4.00(101.6)	1.52(38.6)	4.38(111.1)	1" NPT
62450	150-19-[]	62960	-----	-----	C02-2067	A05-0003	A05-0004	C02-2121	A05-0009	A05-0010	C02-2124	12.10(307.3)	4.00(101.6)	1.52(38.6)	4.38(111.1)	1" NPT
-----	CI200-35-000	19923	-----	-----	C02-2085	A05-0005	A05-0006	C02-2122	A05-0011	A05-0012	C02-2125	16.14(410.0)	5.00(127.0)	2.00(50.8)	5.59(142.0)	1-1/2" NPT
60450	CI200-35-000	-----	19939	19916	C02-2085	A05-0005	A05-0006	C02-2122	A05-0011	A05-0012	C02-2125	16.14(410.0)	5.00(127.0)	2.00(50.8)	5.59(142.0)	1-1/2" NPT
60450	CI200-35-000	-----	19939	19916	C02-2085	A05-0005	A05-0006	C02-2122	A05-0011	A05-0012	C02-2125	16.14(410.0)	5.00(127.0)	2.00(50.8)	5.59(142.0)	1-1/2" NPT

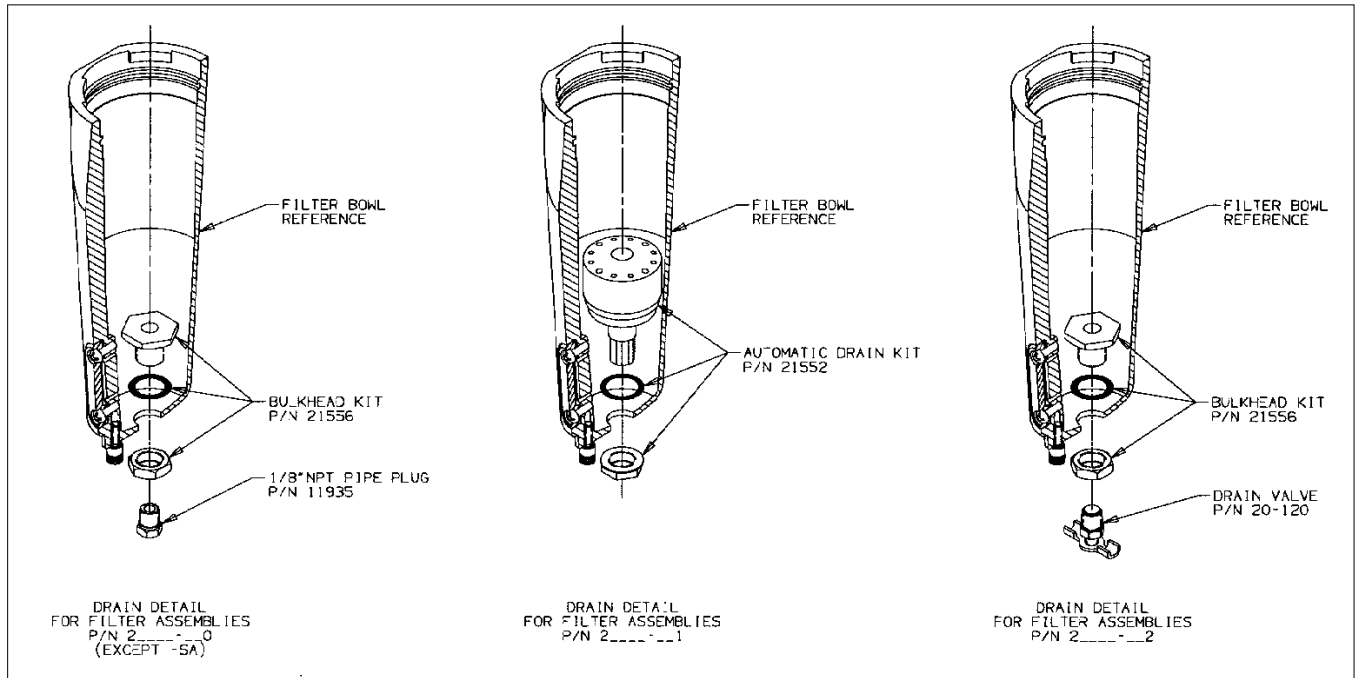
[] = Specify Filter Tube Grade BX or DX
 _ = Specify Drain Option 0, 1 or 2 (See Drain Detail)
 Dimensions - IN (mm)

BOWL CAPACITY	REPLACEMENT BOWL ASSY.		
	OPTION 0 PLUGGED DRAIN (-----0)	OPTION 1 AUTO DRAIN (-----1)	OPTION 2 MANUAL DRAIN (-----2)
13.5oz (20-----)	C02-2268	C02-2269	C02-2270
20.3oz (2104-----)	C02-2272	C02-2273	C02-2274
40.6oz (22-----)	C02-2276	C02-2277	C02-2278
81.1oz (2312-----)	C02-2280	C02-2281	C02-2282

EXCEPT *SA* (-----0A0-SA)
 SEE REPLACEMENT PARTS TABLE
 FOR *SA* HOUSINGS FOR APPROPRIATE
 REPLACEMENT BOWL ASSY.

Table 2: Replacement Bowl Assembly

Figure 4 - Drain Details



Preparing Compressed Air for Sterilization

All water, oil, and dirt must be removed from compressed air before it enters a sterile air filter. Balston coalescing filters remove these contaminants from compressed air at very high efficiencies, up to 99.99% for 0.01 μm for particles and droplets. Collected liquid drips from the filter cartridge to an automatic drain as rapidly as it enters the filter. A Balston coalescing filter will remove liquids for an unlimited time without loss of efficiency or flow capacity.

Two stages of coalescing filters, a Balston Grade DX followed by a Balston Grade BX, are recommended to satisfy all requirements for preparing compressed air for sterile filtration (see Figure 5 recommended installation diagram on Page 9).

Request Bulletin FNS1 for details on Balston compressed air coalescing filters.

Installing a Balston Sterile Air Filter Assembly

NOTE: All housings with "SA" designations (3rd stage in diagram) must be installed so that flow direction of the compressed air is "outside to inside" through the filter cartridge.

Special consideration must be taken when the application requires steam sterilization of the sterile air filter. The sterile air filter should be piped so that it may be isolated from the coalescing prefilters when it is being steam sterilized (see Figure 5 schematic installation diagram on Page 9). **Any filter housing which is steam sterilized must be stainless steel.**

The filter housing is a pressure vessel and the system connections and accessory outlets must be leak-tight. Apply a pipe sealant to the male threads before connecting the pipe line to the filter ports. The sealant also permits disassembly at a later time, if necessary. Any sealant such as PTFE tape, paste, or other compound may be used if it is compatible with the filtered media.

The Filter Cartridges

Please note that an adhesive-backed grade label is packed in each box of filter cartridges. Affix the grade label to the filter housing when installing the first filter cartridge, so that maintenance personnel know which grade of filter to use for replacement. The date the filter cartridge is installed may be written on the housing label with marking pen or grease pencil, ensuring that the cartridges are changed on a regular schedule.

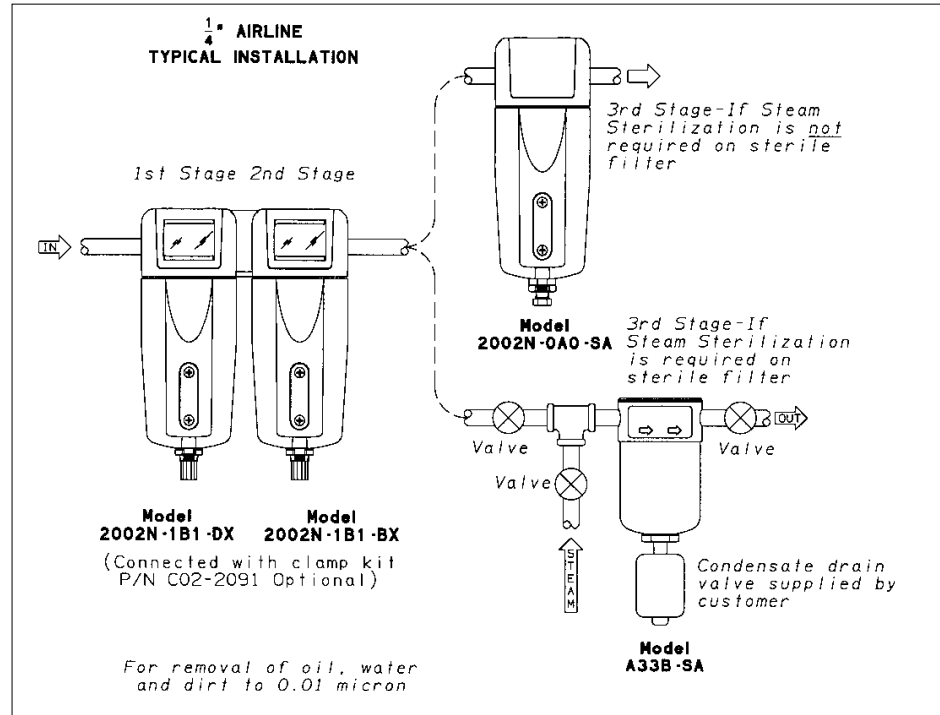
Installing Filter Cartridges

Microfibre filter cartridges are sealed in place by compression against a flat surface. Gaskets are not required between the filter cartridge and the filter housing. The filter cartridge is centered by guides which fit the inside diameter of the cartridge at each end. In most Balston housing designs, the filter cartridge is sealed by tightening a threaded element retainer on a tie rod. It is not necessary to use excessive force or tools on the element retainer. The filter cartridge is securely sealed by tightening the element retainer 1-1/2 to 2 turns after it first contacts the filter cartridge.

Changing the Filter Cartridge

A Microfibre filter cartridge continues to filter at its original efficiency as long as it is kept in service. The life of the filter cartridge is determined by the increase in flow resistance caused by solids trapped within the depth of the cartridge. The filter cartridge should be changed when the flow falls below an acceptable level, or the pressure drop becomes too high. The pressure drop through the cartridge should not exceed 10 psid. The filter cartridge cannot be cleaned by back-flushing, because the solids are trapped in the depth of the cartridge, not on the surface.

Figure 5 - Schematic Installation



Summary of Filter Cartridge Recommendations

1st Stage Grade DX	2nd Stage Grade BX	3rd Stage Grade SA
For removal of large quantities of oil, water, and dirt from compressed air. Prefilter to Grade BX	For complete removal of trace quantities of oil, water, and dirt.	For removal of bacteria when providing sterile air.

Parker Hannifin does not recommend the use of Grade BX without a Grade DX prefilter.

Steam Sterilization Procedure

Steam must flow through the sterile air filter in an outside-to-inside flow direction.

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

When steam sterilizing, ensure the steam pressure does not exceed 60 psig. It is preferable to hold the steam pressure to 40 psig or less. A typical sterilization cycle consists of using steam at 30 psig for 20 minutes. Steam sterilization time can be increased as desired without harm to the filter cartridges; however, the steam flow rate should not exceed the normal air flow rate for the unit. A condensate drain valve must be installed on the Sterile Air filter to ensure no condensate buildup during the steam sterilization cycle. If condensate is allowed to build up within the housing during steam sterilization, the sterility and integrity of the sterile air filter may be compromised. Typically, the Balston Sterile Air filter cartridge will withstand approximately 60 steam sterilization cycles.

Use only filtered steam to sterilize a sterile air filter. The use of unfiltered steam may contaminate the filter housing, filter cartridge, and any downstream equipment or piping. Request Literature Pack 9 for more information on Balston Steam Filters.

Autoclaving Procedure

The Balston Grade SA sterile air filter cartridges will tolerate temperatures to 300°F (149°C) in dry gas. Viton or other appropriate heat-resistant sealing should be used in the housing during autoclaving. The housing must be rated for the temperature used during autoclaving.

Ordering and Installing Replacement Parts

All drawings and a replacement parts list are included with each filter housing/assembly shipped from the factory. When ordering replacement parts, order by part number and description, as detailed on the replacement parts drawing shipped with the filter. When replacing seals, lubricate prior to installation. Use a lubricant which is compatible with the gas being filtered.

Figure 6 - Exploded Parts View (Sterile Air)

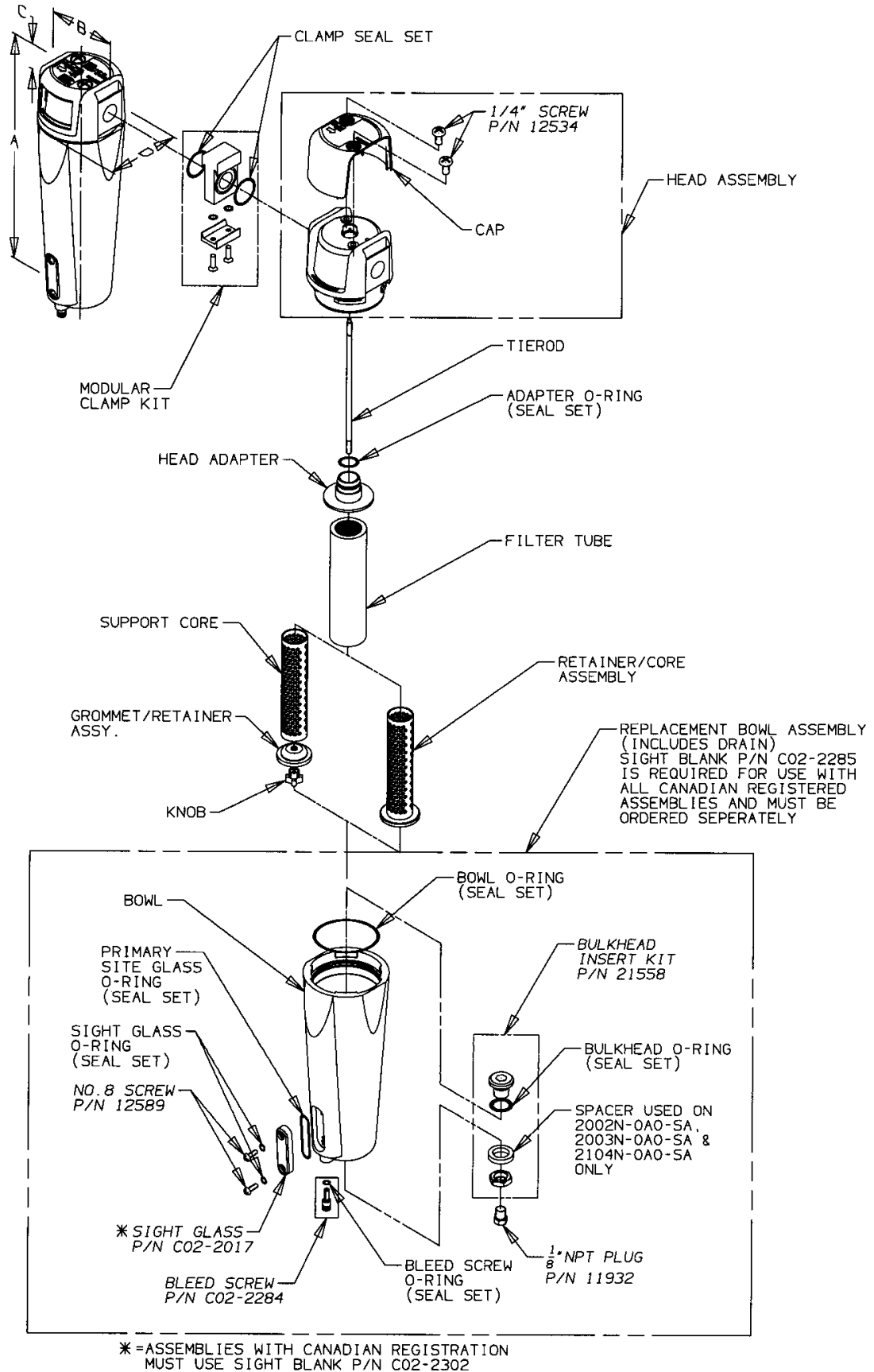


Table 3: Spare Parts Table (Sterile Air)

ASSEMBLY PART NO	HEAD ASSEMBLY	CAP ASSEMBLY	TIEROD	HEAD ADAPTER	FILTER TUBE	RETAINER CORE ASSY.	SUPPORT CORE	GROMMET RETAINER	KNOB	BOWL	BOWL ASSY.
2002N-0A0-SA	C02-2160	C02-2157	C02-2020	91410	100-12-SA	91961	-----	-----	-----	C02-2023	C02-2267
2003N-0A0-SA	C02-2161	C02-2157	C02-2020	91410	100-12-SA	91961	-----	-----	-----	C02-2023	C02-2267
2104N-0A0-SA	C02-2162	C02-2157	C02-2021	91410	100-18-SA	91962	-----	-----	-----	C02-2024	C02-2271
2206N-0A0-SA	C02-2163	C02-2158	C02-2066	62451	150-19-SA	62905	-----	-----	-----	C02-2067	C02-2275
2208N-0A0-SA	C02-2164	C02-2158	C02-2066	62451	150-19-SA	62905	-----	-----	-----	C02-2067	C02-2275
2312N-0A0-SA	C02-2165	C02-2169	C02-2084	60451	200-35-SA	-----	SS-200-36	19939	19916	C02-2085	C02-2279

ASSEMBLY PART NO	SEAL SET (BUNA FOOD GRADE)	CLAMP KIT	CLAMP SEAL SET (BUNA)	MOUNTING BRACKET	DIM A	DIM B	DIM C	DIM D	PORT SIZE
2002N-0A0-SA	A05-0001	C02-2091	A05-0007	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/4" NPT
2003N-0A0-SA	A05-0001	C02-2091	A05-0007	C02-2123	7.54(191.5)	3.00(76.2)	1.19(30.2)	3.25(82.6)	3/8" NPT
2104N-0A0-SA	A05-0001	C02-2091	A05-0007	C02-2123	10.29(261.4)	3.00(76.2)	1.19(30.2)	3.25(82.6)	1/2" NPT
2206N-0A0-SA	A05-0003	C02-2121	A05-0009	C02-2124	12.10(307.3)	4.00(101.6)	1.52(38.6)	4.38(111.1)	3/4" NPT
2208N-0A0-SA	A05-0003	C02-2121	A05-0009	C02-2124	12.10(307.3)	4.00(101.6)	1.52(38.6)	4.38(111.1)	1" NPT
2312N-0A0-SA	A05-0005	C02-2122	A05-0011	C02-2125	16.14(410.0)	5.00(127.0)	2.00(50.8)	5.59(142.0)	1-1/2" NPT

Dimensions = IN (mm)

Note: Replacement parts drawings for other Balston Sterile Air Filters are provided separately.

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