

1091363

FEB - 4 2010

**510(K) SUMMARY**

This summary of 510(k) safety and effectiveness information is being submitted in accordance with the requirements of SMVDA 1990 and 21 CFR §807.92.

510(k) number:

**1. Submitter's Identification:**

AG Industries  
3637 Scarlet Oak Blvd.  
St Louis, MO 63122  
USA  
Submitter Phone: (866) 222-8988  
Submitter Fax: (970) 494-2052  
Submitter Contact: Michael Amann  
Title: Vice-President  
Date Summary Prepared: 1-5-2009

**2. Name of the Device:**

Please reference the following table for Proprietary and Common names of the devices included in this submission.

| <b>Proprietary Name</b>           | <b>Common Name</b> |
|-----------------------------------|--------------------|
| AG1038831                         | Compressor Filter  |
| LL201                             | Compressor Filter  |
| LL202                             | Compressor Filter  |
| LL205                             | Compressor Filter  |
| HCF100                            | Compressor Filter  |
| BF910 (Platinum)                  | Compressor Filter  |
| BF900 (Non-Platinum)              | Compressor Filter  |
| BF950 (Platinum and Non-Platinum) | Compressor Filter  |
| BF200C                            | Bacterial Filter   |
| BF100                             | Bacterial Filter   |
| BF500                             | Bacterial Filter   |
| BF600                             | Bacterial Filter   |

**3. Predicate Device Information:**

**Comparison to Predicate Devices:**

The above devices are compared to similar devices marketed by Porous Media which were cleared under K061426. The features of each are exhibited in the following tables.

| <b>Feature</b>        | <b>AG Industries</b>  | <b>Porous Media<br/>K061426</b>    |
|-----------------------|---|------------------------------------|
| Model                 | <b>AG1038831</b>  | <b>DBF 32</b>                      |
| Intended Use          | The filters are intended to help remove air-borne contaminants, including air borne bacteria and other particulate debris, from the air stream of a respiratory device. | Same                               |
| Filtration Efficiency | 99.9+% BFE  | 99.999%BFE                         |
| Filter Material       | Glass Microfiber  | Same                               |
| Housing Material      | Styrene Butadiene or approved equivalent  | Polystyrene or approved equivalent |
| Air Flow Resistance   | 1.3 cm H2O @ 10 Lpm   | 3.0 cm H2O @ 100 scfh              |
| Maximum Flow Rate     | 100 LPM   | Same                               |
| Connection            | 12.72 mm to fit machine   | 22 mm ISO male/female              |

| <b>Feature</b>        | <b>AG Industries</b>                     | <b>Porous Media<br/>K061426</b>    |
|-----------------------|--|------------------------------------|
| Model                 | <b>LL205</b>                             | <b>DBF 27</b>                      |
| Intended Use          | Same as AG1038831 Above                  | Same                               |
| Filtration Efficiency | 99.99+% BFE                              | 99.999% BFE                        |
| Filter Material       | Glass Microfiber                         | Same                               |
| Housing Material      | Styrene Butadiene or approved equivalent | Polystyrene or approved equivalent |
| Air Flow Resistance   | .78 cm H2O @ 10 Lpm                      | 4.0 cm H2O @ 100 scfh              |
| Maximum Flow Rate     | 100 LPM                                  | 100 LPM                            |
| Connection            | Male 22 mm ISO                           | Same                               |

| <b>Feature</b>        | <b>AG Industries</b>                     | <b>Porous Media<br/>K061426</b>    |
|-----------------------|--|------------------------------------|
| Model                 | <b>LL201</b>                             | <b>DBF 24</b>                      |
| Intended Use          | Same as AG1038831 Above                  | Same                               |
| Filtration Efficiency | 99.999+% BFE                             | 99.999%                            |
| Filter Material       | Glass Microfiber                         | Same                               |
| Housing Material      | Styrene Butadiene or approved equivalent | Polystyrene or approved equivalent |
| Air Flow Resistance   | 12.02 cm H2O @ 85 Lpm                    | 4.0 cm H2O @ 100 scfh              |
| Maximum Flow Rate     | 100 LPM                                  | Same                               |
| Connection            | Male 22 mm ISO                           | Same                               |

| <b>Feature</b>        | <b>AG Industries</b>                     | <b>Porous Media<br/>K061426</b>    |
|-----------------------|--|------------------------------------|
| Model                 | <b>LL202</b>                             | <b>DBF 24</b>                      |
| Intended Use          | Same as AG1038831 Above                  | Same                               |
| Filtration Efficiency | 99.9+ % BFE                              | 99.999%                            |
| Filter Material       | Glass Microfiber                         | Same                               |
| Housing Material      | Styrene Butadiene or approved equivalent | Polystyrene or approved equivalent |
| Air Flow Resistance   | .39 cm H2O @ 10 Lpm                      | 4.0 cm H2O @ 100 scfh              |
| Maximum Flow Rate     | 100 LPM                                  | Same                               |
| Connection            | Male 22 mm ISO                           | Same                               |

| <b>Feature</b>        | <b>AG Industries</b>                     | <b>Porous Media<br/>K061426</b>    |
|-----------------------|--|------------------------------------|
| Model                 | <b>HCF100</b>                            | <b>DBF 32</b>                      |
| Intended Use          | Same as AG1038831 Above                  | Same                               |
| Filtration Efficiency | 99.999+ % BFE                            | 99.999%                            |
| Filter Material       | Glass Microfiber                         | Same                               |
| Housing Material      | Styrene Butadiene or approved equivalent | Polystyrene or approved equivalent |
| Air Flow Resistance   | .33 cm H2O @ 10.5 Lpm                    | 3.0 cm H2O @ 100 scfh              |
| Maximum Flow Rate     | 100 LPM                                  | Same                               |
| Connection            | 22mm ISO Male/Female                     | Same                               |

| <b>Feature</b>        | <b>AG Industries</b>                     | <b>Porous Media<br/>K061426</b>                             |
|-----------------------|--|---|
| Model                 | <b>BF910 (Platinum)</b>                  | <b>DBF 25</b>   |
| Intended Use          | Same as AG1038831 Above                  | Same  |
| Filtration Efficiency | 99.99+% BFE                              | 99.999%   |
| Filter Material       | Glass Microfiber                         | Same  |
| Housing Material      | Styrene Butadiene or approved equivalent | Polystyrene or approved equivalent                          |
| Air Flow Resistance   | .4 cm H2O @ 5 Lpm                        | 18 in H2O ( <b>Platinum 10</b> )<br>7 in H2O (non-Platinum) |
| Maximum Flow Rate     | 100 LPM                                  | Same  |
| Connection            | 3/8 " FNPT and 22mm OD                   | 3/8 " FNPT  |

| <b>Feature</b>        | <b>AG Industries</b>                               | <b>Porous Media<br/>K061426</b>  |
|-----------------------|--|--|
| Model                 | <b>BF900 (Non-Platinum)</b>                        | <b>DBF 25</b>  |
| Intended Use          | Same as AG1038831 Above                            | Same   |
| Filtration Efficiency | 99.999+% BFE                                       | 99.999%  |
| Filter Material       | Glass Microfiber                                   | Same   |
| Housing Material      | Styrene Butadiene or approved equivalent           | Polystyrene or approved equivalent   |
| Air Flow Resistance   | 1.6 cm H <sub>2</sub> O @ 84.9 LPM ( Non-Platinum) | 18 in H <sub>2</sub> O (Platinum 10)<br>7 in H <sub>2</sub> O (non-Platinum) |
| Maximum Flow Rate     | 100 LPM  | Same   |
| Connection            | 3/8" FNPT and 22mm OD                              | 3/8" FNPT  |

| <b>Feature</b>        | <b>AG Industries</b>                        | <b>Porous Media<br/>K061426</b>  |
|-----------------------|---|--|
| Model                 | <b>BF950 ( Platinum &amp; Non Platinum)</b> | <b>DBF 25</b>  |
| Intended Use          | Same as AG1038831 Above                     | Same   |
| Filtration Efficiency | 99.999+% BFE                                | 99.999%  |
| Filter Material       | Glass Microfiber                            | Same   |
| Housing Material      | Styrene Butadiene or approved equivalent    | Polystyrene or approved equivalent   |
| Air Flow Resistance   | .45 cm H <sub>2</sub> O @ 10.3 LPM          | 18 in H <sub>2</sub> O (Platinum 10)<br>7 in H <sub>2</sub> O (non-Platinum) |
| Maximum Flow Rate     | 100 LPM                                     | Same   |
| Connection            | 3/8" FNPT and 22mm OD                       | 3/8" FNPT  |

| <b>Feature</b>        | <b>AG Industries</b>                 | <b>Porous Media<br/>K061426</b>    |
|-----------------------|--------------------------------------|------------------------------------|
| Model                 | <b>BF200C</b>                        | <b>DDF4711M03Y</b>                 |
| Intended Use          | Same as AG1038831 Above              | Same                               |
| Filtration Efficiency | 99.999+% BFE                         | 99.999%                            |
| Filter Material       | Glass Microfiber                     | Same                               |
| Housing Material      | Polypropylene or approved equivalent | Polystyrene or approved equivalent |
| Connection            | 3/8" Hose Barb                       | 3/8" Hose Barb                     |

| <b>Feature</b>        | <b>AG Industries</b>                 | <b>Porous Media<br/>K061426</b>    |
|-----------------------|--------------------------------------|------------------------------------|
| Model                 | <b>BF100</b>                         | <b>DDF4711M03Y</b>                 |
| Intended Use          | Same as AG1038831 Above              | Same                               |
| Filtration Efficiency | 99.999+%                             | 99.999%                            |
| Filter Material       | Glass Microfiber                     | Same                               |
| Housing Material      | Polypropylene or approved equivalent | Polystyrene or approved equivalent |
| Connection            | 3/16"- 1/4" Stepped Bar              | 1/8" Hose Barb                     |

| <b>Feature</b>        | <b>AG Industries</b>                 | <b>Porous Media<br/>K061426</b>    |
|-----------------------|--------------------------------------|------------------------------------|
| Model                 | <b>BF500</b>                         | <b>DDF4700M03Y</b>                 |
| Intended Use          | Same as AG1038831 Above              | Same                               |
| Filtration Efficiency | 99.999+%                             | 99.97%                             |
| Filter Material       | Glass Microfiber                     | Same                               |
| Housing Material      | Polypropylene or approved equivalent | Polystyrene or approved equivalent |
| Connection            | 1/4" Straight Barb                   | Same                               |

| Feature               | AG Industries                        | Porous Media<br>K061426            |
|-----------------------|--------------------------------------|------------------------------------|
| Model                 | <b>BF600</b>                         | <b>DDF4711M03Y</b>                 |
| Intended Use          | Same as AG1038831 Above              | Same                               |
| Filtration Efficiency | 99.999+%                             | 99.999%                            |
| Filter Material       | Glass Microfiber                     | Same                               |
| Housing Material      | Polypropylene or approved equivalent | Polystyrene or approved equivalent |
| Connection            | 1/8" Hose Barb                       | Same                               |

The following tests were performed to support substantial equivalence:

- Bacterial Filtration Efficiency
- Dioctyl Phthalate (DOP) Aerosol Test
- ISO Guinea Pig Maximization Test
- ISO Acute Systemic Injection Test
- MEM Elution Test
- Material Mediated Rabbit Pyrogen Test

The above tests confirmed that the performance of the subject filters is substantially equivalent to the predicate device(s). The Biocompatibility tests confirmed that the following filters BF500, BF200C, BF100 and BF600, which contain materials not in previously cleared devices, present no biocompatibility issues.

#### **4. Device Description:**

COMPRESSOR & BACTERIA FILTERS ( AG1038831, LL205, LL201, LL202, HCF100, BF910, BF900, BF950, BF200C, BF100, BF500, BF600):

Room air is drawn into the compressor of a respiratory device through the bacterial intake filter. From the compress, the air passes through the Compressor Filter, if one is installed on the machine and proceeds to the sieve beds. The sieve beds condition the air by removing nitrogen from the air stream, which results in higher concentration of oxygen. The air then passes through the final filter before being supplied to the patient.

#### **5. Intended Use:**

AG Industries filters are replacement filters intended for use in oxygen concentrator machines to help remove contaminants, including air borne bacteria and other particulate

debris from an air stream. When used with oxygen concentrator machines, the replacement filters may be used in the home, nursing home, hospital, patient care facility, etc.

**6. Discussion of Clinical Tests Performed:**

Not applicable

**7. Conclusions:**

The subject devices have the same intended use and similar characteristics as the predicate devices. No new questions of safety or effectiveness are raised by differences in technology or materials. Thus, the AG Industries COMPRESSOR & BACTERIA FILTERS ( AG1038831, LL205, LL201, LL202, HCF100, BF910, BF900, BF950, BF200C, BF100, BF500, BF600) are substantially equivalent to the predicate devices.



Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Room -WO66-G609  
Silver Spring, MD 20993-0002

FEB - 4 2010

ndd AG Industries  
C/O Mr. Ian Gordon  
Senior Vice-President  
Emergo Group, Incorporated  
1705 South Capital of Texas Highway, Suite 500  
Austin, Texas 78746

Re: K091363

Trade/Device Name: Compressor & Bacteria Filters (AG1038831, LL205, LL201,  
LL202, HCF100, BF910, BF900, BF950, BF200C, BF100,  
BF500, BF600)

Regulation Number: 21 CFR 868.5260

Regulation Name: Breathing Circuit Bacterial Filter

Regulatory Class: II

Product Code: CAH

Dated: January 21, 2010

Received: January 22, 2010

Dear Mr. Gordon:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Page 2 – Mr. Gordon

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please go to <http://www.fda.gov/cdrh/comp/> for the Center for Devices and Radiological Health's (CDRH's) Office of Compliance. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <http://www.fda.gov/cdrh/mdr/> for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (240) 276-3150 or at its Internet address <http://www.fda.gov/cdrh/industry/support/index.html>.

Sincerely yours,



Anthony D. Watson, B.S., M.S., M.B.A.  
Director  
Division of Anesthesiology, General Hospital,  
Infection Control and Dental Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

**INDICATIONS FOR USE**

**510(k) Number :**

**Device Name:** COMPRESSOR & BACTERIA FILTERS ( AG1038831, LL205, LL201, LL202, HCF100, BF910, BF900, BF950, BF200C, BF100, BF500, BF600):

**Indications for Use:**

AG Industries filters are replacement filters intended for use in oxygen concentrator machines to help remove contaminants, including air borne bacteria and other particulate debris from an air stream. When used with oxygen concentrator machines, the replacement filters may be used in the home, nursing home, hospital, patient care facility, etc.

Prescription Use    
 (Part 21 CFR 801 Subpart D)

AND/OR Over-The-Counter Use \_\_\_\_\_   
 (21 CFR 801 Subpart C)

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(PLEASE DO NOT WRITE BELOW THIS LINE -CONTINUE ON ANOTHER PAGE  
IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)



(Division Sign-Off)

Division of Anesthesiology, General Hospital  
Infection Control, Dental Devices

510(k) Number:     K091363