



Respiratory Airline Safety Compliance

The Breather Box® and Panel Grade-D Filtration

Issues: Compliance with breathing air quality standards for NIOSH Type C/CE airline respirators. Breathing air standards were developed by ANSI/Compressed Gas Association (CGA) G-7.1 - 1989 and adopted by OSHA under respiratory standard 29 CFR, 1910.134. The standard requires airline respirator wearers be supplied with Grade-D quality air.

Compliance with Point-Of-Attachment (POA) requirement. NIOSH Publication 87-116 states the POA is the location on a Grade-D air filtration system containing the air pressure regulator, the pressure gauge, safety relief valve and outlet manifold with compatible quick connect couplings.

Solution: Connected to a mobile or plant compressor, the Breather Box® or panel mounted unit filters compressed air to provide Grade-D breathing air while continuously monitoring for Carbon Monoxide (CO) to operate C/CE airline respirators. Sizing of the filtration system is based on the maximum flow (15 cfm) and the number of workers. Breather Boxes® are available up to 175 cfm to serve 1 to 8 workers. Panels are available up to 3000 cfm. Standard Breather Boxes® and panels are designed for use in non-hazardous locations and intrinsically safe certified units are available for hazardous locations and IDHL environments. CO/O2 units are also available for non-hazardous & hazardous locations.

Compliance: Air Systems' portable and fixed breathing air filtration systems meet or exceed OSHA 1910.134, Canadian Z180.1 Breathing Air Standards and British Standard BS-EN 12021:1999 "Respiratory Protective Devices" for Grade-D air.

The Breather Box® and Panels work with ANY Airline Respirator Brand



The Breather Box®
Portable Grade-D Air Filtration



Panel Mounted Grade-D Air Filtration

Point-of-Attachment (POA) NIOSH Publication 87-116

The POA is the location on a Grade-D
air filtration system containing:

- 1) Air pressure regulator
- 2) Pressure gauge
- 3) Safety relief valve
- 4) Outlet manifold with quick connect couplings

What is Grade-D Air Quality?

Breathing air quality standards have been developed by ANSI / Compressed Gas Association (CGA) G-7.1 - 1989, and adopted by OSHA under their respiratory standard 29 CFR, 1910.134.

Air Quality Must Meet or Exceed The Following Requirements:

- **Oxygen:** 19.5%-23.5% (20%-22% Canada)
- **Hydrocarbon (condensed oil)** 5 mg/m³ maximum (<1Mg/m³ in Canada)
- **Carbon Monoxide (CO):** 10 ppm maximum (5 ppm in Canada)
- **Carbon Dioxide (CO2):** 1000 ppm maximum (500 ppm in Canada)
- **Odor:** No noticeable tastes or smells
- **Total Volatile Hydrocarbons (Canada):** 5 ppm maximum
- **Water Content:** Dew point 10° F (5.6° C) below working temperature.
Canada: 5° C below lowest temperature, 27 ppm maximum water vapor



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The Breather Box[®] and Panel Grade-D Filtration

Product Features:

- **1ST Stage Filter removes liquids and particulate to 5.0 micron particle size**
Filter change indicator and automatic drain
- **2ND Stage Filter provides oil coalescing and ultra-fine particulate filtration**
(99.99% efficient at .01 micron particle size). Filter change indicator and automatic drain.
- **3RD Stage Charcoal Filter removes organic vapors and objectionable odors**
Filter change indicator and manual drain
- In-Line Carbon Monoxide (CO) monitor standard
- Carbon Monoxide / Oxygen (CO/O₂) monitor versions available
- Intrinsically safe CO and CO/O₂ monitor versions available
- 2 year warranty on CO sensor and monitor. 1 year warranty on O₂ sensor.
- Three standard power options: dual 9 VDC battery, 8-16 VDC, or 115 VAC, 60 Hz (230 VAC /50 Hz optional)
- AC output supplied standard on all panel mount units (intrinsically safe monitors supplied with 9 VDC power only)
- Safety visual flowmeter to verify air flow to monitor, adjustable flow rate: 50-100 cc
- Safety relief valve set at 125 psi for outlet pressure
- External mounted CO warning LED lights and audible alarm, 95 dBA
- Solid aluminum block manifold with manual drain



Grade-D Air Filtration Models

Description	Breather Box [®] Item #	Fixed Panel Item #	Intrinsically Safe Item #
15 cfm (48 cfm flow capacity) CO monitor - 1 coupling	BB15-CO	BB15-COPM	BB15-COIS
30 cfm (48 cfm flow capacity) CO monitor - 2 couplings	BB30-CO	BB30-COPM	BB30-COIS
50 cfm (79 cfm flow capacity) CO monitor - 4 couplings	BB50-CO	BB50-COPM	BB50-COIS
100 cfm (123 cfm flow capacity) CO monitor - 4 to 8 couplings	BB100-CO8	BB100-COPM	BB100-COIS



CO/O₂ Monitors are available on all models.

See our full Grade-D air filtration product line in our Master Catalog or on the web at www.airsystems.com



Air Systems International, Inc.

Email: sales@airsystems.com

Catalog Request: catalog@airsystems.com

The Industry Leader in Breathing Air Filtration & Confined Space Ventilation