

The Breather Box™

High Performance Grade-D Breathing Air Filtration System

Specifications

- Filter Change Indicators
- Incoming Air Plug 1/2" Industrial Interchange
- 2 Automatic Drains with Discharge Tubes
- 3 Standard Power Options
- Specify Respirator Couplings
- Carbon Monoxide Monitor Standard
- CO/O₂ Monitor Available
- Intrinsically Safe Versions Available
- Remote Alarm Receptacle
- External Warning Lights and Alarm
- Safety Relief Valve
- Visual Air Flowmeter to Monitor
- Monitor & Filtration Details on Pages 3-4



BB50-CO

- All portable and fixed breathing air filtration systems, when used properly, meet or exceed OSHA 1910.134, Canadian Z180.1 Breathing Air Standards and British Standard BS-EN 12021:1999 "Respiratory Protective Devices"
- All filtration units are designed to flow the NIOSH required maximum capacity per worker
- Air Systems provides at NO CHARGE, your first lab certified air quality test of your new breathing air filtration device. Contact Customer Service for details.

The Breather Box™ Family

Portable Grade-D Air Filtration with CO Monitor

BB15-CO	15 cfm Breather Box™, 24 cfm flow capacity, 1 coupling
BB30-CO	30 cfm Breather Box™, 48 cfm flow capacity, 2 couplings
BB30-CO3	30 cfm Breather Box™, 48 cfm flow capacity, 3 couplings
BB50-CO	50 cfm Breather Box™, 79 cfm flow capacity, 4 couplings
BB75-CO	75 cfm Breather Box™, 97 cfm flow capacity, 6 couplings
BB100-CO	100 cfm Breather Box™, 123 cfm flow capacity, 4 couplings
BB100-CO6	100 cfm Breather Box™, 123 cfm flow capacity, 6 couplings
BB100-CO8	100 cfm Breather Box™, 123 cfm flow capacity, 8 couplings
BB150-CO	150 cfm Breather Box™, 203 cfm flow capacity, three ½" industrial interchange sockets

Portable Grade-D Air Filtration with CO/O₂ Monitor

BB30-CO02	30 cfm Breather Box™, 48 cfm flow capacity, 2 couplings
BB50-CO02	50 cfm Breather Box™, 79 cfm flow capacity, 4 couplings
BB100-CO02	100 cfm Breather Box™, 123 cfm flow capacity, 4, 6 or 8 couplings

Portable Grade-D Air Filtration with CO Monitor and Independent Regulators

BB30-CO2R	30 cfm Breather Box™, 48 cfm flow capacity, 2 independent regulators & pressure gauges, 2 couplings
BB50-CO4R	50 cfm Breather Box™, 79 cfm flow capacity, 4 independent regulators & pressure gauges, 4 couplings
BB100-CO4R	100 cfm Breather Box™, 123 cfm flow capacity, 4 independent regulators & pressure gauges, 4 couplings

Portable Grade-D Air Filtration with Intrinsically Safe CO Monitor

BB15-COIS	15 cfm Breather Box™ Intrinsically Safe, 24 cfm flow capacity, 1 couplings
BB30-COIS	30 cfm Breather Box™ Intrinsically Safe, 48 cfm flow capacity, 2 couplings
BB50-COIS	50 cfm Breather Box™ Intrinsically Safe, 79 cfm flow capacity, 4 couplings
BB100-COIS	100 cfm Breather Box™ Intrinsically Safe, 123 cfm flow capacity, 4 couplings (Optional 6 or 8 couplings)

CSA Approved for Class I, Division 1, Groups C and D environments, 9 VDC operation only, providing 40 hours usage.



Please specify 1/4" Hansen style or Schrader style fittings when ordering. Other fittings available for an additional charge.

Custom Designed Breather Box™ Options

- Clear Viewing Windows
- Independent Regulators
- Fully Automatic Reserve Air System
- Low Pressure Alarms
- Large Portable Systems up to 200 cfm

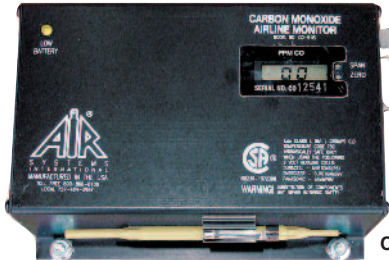
Custom modifications are available to meet the most demanding requirements. Contact our technical sales department for additional details. Engineering drawings and a specification will be provided for your application.

See Page 16 for Calibration Kit Ordering Information and Page 15 for Replacement Filters





CO-91



CO-91IS



CO2-91

Airline Monitor Specifications:

- **Calibration:** Less than 2 minutes
- **Monitor display:** LCD 3-digit readout
- **Temperature range:** 4°F to 113°F (-20°C to 45°C)
- **Accuracy:** +/- 1% of full scale
- **Monitor range:** Carbon Monoxide (CO) 0-200 ppm, Oxygen (O₂) optional 15-23%
- **Pressure range:** 1-3 psi, flow 50-100 cc
- **Response:** 90% of full scale in 10 seconds
- **Sensor type:** 3-electrode electrochemical with bias voltage
- **Humidity range:** 5% to 95% relative humidity
- **Warranty:** 2 years on entire unit and CO sensor (1 year on oxygen sensor)
- **Alarm set point:** 10 ppm CO (5 ppm Canada); 19.5% O₂ option
- **Voltage operation:** 115 VAC, dual 9 VDC battery, or 8-16 VDC, 230 VAC optional
- **Shielding:** Internal RFI/EMI circuitry, aluminum case
- **Test circuitry:** Manual push-to-test for sensor operation and alarms
- **Warning indicators:** Low battery (amber), normal operation (green), high CO (red), low O₂ option (red). LED locations may vary with model ordered.
- **Output signals (standard):** DC output on portables, AC output on panel versions
- **Monitor housing:** Black anodized aluminum
- **Control panel standard features:** Inlet gas quick connect coupling, auxiliary 12 VDC jack, on/off/test switch, auxiliary/remote alarm jack, 115 VAC jack
- CO or CO/O₂ monitors available with intrinsically safe (IS) certification

Panel Mounted CO Monitors for Continuous Sampling of CO and/or CO/O₂ levels



The carbon monoxide (CO) airline monitor panel can be ordered to retrofit any existing Grade-D breathing air system and is also available with CO and Oxygen (O₂) sensors. Standard units are supplied with high intensity audible alarm and a 115 VAC power cord. All units are powder coated steel and are ready for wall mounting. Intrinsically safe versions available - CSA approved, 9 VDC power only. **Grade-D air filtration is required to be provided to the monitor.**



CO-91PM

Specifications

- Visual Air Flowmeter to Monitor
- Carbon Monoxide Monitor Standard
- CO/O₂ Monitor Available
- Intrinsically Safe Versions Available
- Audible and Visual Alarms
- 115 VAC Remote Alarm Connections
- 115 VAC Power Cord
- 230 VAC Optional

Panel Mounted Airline Monitors for Grade-D Air Filtration

CO-91PM	Panel mounted CO monitor, 9 VDC and/or 115 VAC, audible alarm, visual lights, flowmeter, quick connect calibration fitting, LCD display
CO-91PMIS	Panel mounted intrinsically safe CO monitor, 9 VDC only, approved for Class I, Division 1, Groups C and D environments, audible alarm, visual lights, flowmeter, quick connect calibration fitting, LCD display, CSA certified
CO2-91PM	Panel mounted carbon monoxide (CO) and oxygen (O ₂) monitor, simultaneously monitors for high CO and low O ₂ levels in breathing air with independent digital readouts, audible alarm, visual lights, flowmeter, quick connect calibration fitting, LCD display. Intrinsically safe version available.

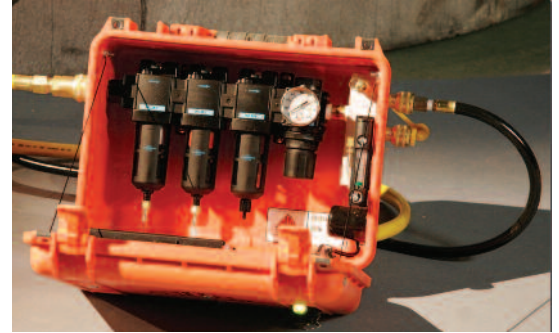
See Page 16 for Calibration Kit Ordering Information

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 (i) (1) (ii).

Air Quality Must Meet the Following Requirements:

- Oxygen: 19.5%-23.5% (20%-22% Canada)
- Hydrocarbon (condensed oil): 5 mg/m³ maximum (<1 mg/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 odors, tastes, or smells
- Water Content:
 - High pressure cylinder air must have a dew point of at least -50°F (-45.6°C) at 1 atmosphere (14.7 psi).
 - Low pressure breathing air must have a dew point of at least 10°F (5.56°C) below the ambient temperature at 1 atmosphere (14.7 psi)
 - Canada: 5°C below lowest temperature, 27 ppm maximum water vapor
- Total Volatile Hydrocarbons (Canada): 5 ppm maximum



The responsibility for quality of breathing air rests with the user.

The air supply compressor should be located in a safe, clean ambient air environment. This "safe" location should be tested periodically to ensure clean ambient air quality on a consistent basis. Total system air quality should be tested at the time the compressor is initially set up. If the compressor is moved, retesting air quality is recommended.

Should the location or environment significantly change, the air quality should be retested.

All Breather Box™ Portable and Fixed Panel Specifications:

- **1ST Stage Filter** - Filter change indicator, automatic drain, removes liquids and particulate to 5.0 micron particle size
- **2ND Stage Filter** - Filter change indicator, automatic drain, provides oil coalescing and ultra-fine particulate filtration that is 99.99% efficient at 0.01 micron particle size
- **3RD Stage Filter** - Filter change indicator, manual drain, charcoal removes organic vapors and objectionable odors
- In-Line Carbon Monoxide (CO) monitor - optional CO/O₂ monitor
- 2-year warranty on sensor and entire CO monitor
- **Three standard power options:** dual 9 VDC battery, 8-16 VDC, and/or 115 volt AC, 60 Hz (50 Hz optional)
- AC output supplied standard on all panel mount units (optional intrinsically safe monitors supplied with 9 VDC only)
- All portable and fixed units are available with CSA approved intrinsically safe monitor for work in hazardous locations
- Remote DC alarm jack with cover cap are standard on most portable units
- All Breather Box™ filtration units are designed for use in the closed and upright position to prevent internal contamination
- Filter change indicator provided on all 3 filters on most units
- 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
- Solid aluminum block manifold with manual drain
- All respirator couplings provided with safety lock feature
- External mounted CO warning LED lights and audible alarm
- 0-160 psi pressure gauge
- Maximum Inlet Pressure - 150 psi



Air Systems' Air Quality Guarantee

Air Systems is so confident you will be pleased with your portable or fixed breathing air filtration system we will provide, at NO CHARGE, your first lab certified air quality test of your new Air Systems' breathing air filtration device or compressor system. Contact Customer Service for details.





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FILTRATION & SEPERATION



COMPRESSED AIR



Aqua-Pure

PROCESS & STERILE



WATER & LIQUID



GENERATOR

MESSURING



We offer start-up, installation and a wide range of service solutions for all our products.

We have service partners in Denmark, Sweden, Norway, Finland & iceland.