Air Filtration Products

Breather Box™
Portable Grade-D Air Filtration

Ambient Air Pump

Other Models
- BB15-CO - 1 Coupling
- BB30-CO - 2 Couplings
- BB100-CO - 4 Couplings
- BB50-COIS - 4 Couplings Intrinsically Safe

Blast-Air™ Cart

Other Models
- BA-30 - 2-Worker
- BA-100 - 4-Worker
- BA-100-6 - 6-Worker

Portable CO Monitor

COMP-3™ Breathing Air Compressor System

MULTI-PAK™ Air Cylinder Carts

Other Models
- MP-2L - 2400 psi Rated

Accessories
- AC-87 - 4500 psi Carbon Fiber Cylinder
- AC-60 - 2400 psi Aluminum Cylinder
- MP-C - Black nylon cover

Co91-14LAC

CO91-14LAC

BB30-CO

COMP-3™ Kit Includes:
- TA-3 Compressor
- H-10-5

BB50-CO

BAC-10

2-Worker

2-Worker

BAC-10

Full Line Catalog Available at www.airsystems.com

Respiratory Protection

Fundamentals Of Respiratory Protection

The Industry Leader in Breathing Air Filtration, Portable Ventilation & Area Lighting

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Understanding Breathing Air Systems

All respirators are classified as either Negative Pressure or Positive Pressure Respirators.

Negative Pressure Disposable Mask Respirator

- The respirator wearer must inhale through the mask. Approved for dusts, mists, vapors and fumes.
- Not approved for IDLH use. (Immediately Dangerous to Life or Health)

Negative Pressure Disposable Cartridge Respirator

- This style of Respirator has replaceable cartridges or filters and comes in half mask or full face.
- Not approved for IDLH use

Positive Pressure (Type-C) Airline Respirator - Constant Flow Hood Style

- All constant flow respirators supply air continuously to maintain positive pressure inside the face piece or hood.
- All airline respirators are classified by NIOSH as Type-C or Type-CE (approved for sandblasting).
- Hoods are available in low pressure style for ambient air pumps, requiring 3-15 psig. High pressure hoods, 25-110 psig, would require Grade-D breathing air provided by a Breather Box™.
- No fit test is required with a hood style respirator, Not approved for IDLH use

Positive Pressure (Type-C) Airline Respirator - Constant Flow Mask

- Positive Pressure respirators are available in half mask or full face. They are approved in low pressure style for ambient air pumps, requiring 3-15 psig. High pressure style, 25-110 psig, would require Grade-D breathing air provided by a Breather Box™.
- Constant flow respirators provide higher Protection Factors than air-purifying negative pressure respirators.
- No fit test is required with high pressure bottles of respirator air as they consume a lot of air.
- Not approved for IDLH use

Positive Pressure (Type-C) Airline Respirator - Pressure Demand Style

- Pressure Demand (PD) respirators supply air “on demand” and maintain a minimum positive pressure in the face piece at all times and required by NIOSH to flow 4-15 cfm per mask. They are available in low pressure style for ambient air pumps, requiring 3-15 psig. High pressure style, 25-110 psig, would require Grade-D breathing air provided by a Breather Box™.
- All PD respirators operate between 60-110 psig and require the use of Grade-D breathing air provided by a Breather Box™ or Grade-E cylinder air.
- PD’s with a five minute escape cylinder can be used in IDLH atmospheres
- Not approved for IDLH use

Elements of a Type-C / CE Breathing Air System

Note: Type-C / CE is a NIOSH designation for an air supplied breathing air respirator system. All airline respirators are Type-C or Type-CE. CE designates an airline respirator approved for abrasive blasting.

A Type-C system consists of the following components:

- Compressed Air Source: Electric / Gas / Diesel Compressor or Compressed Air Cylinder
- Filtration: Grade-D Breathing Air with Carbon Monoxide Monitoring (Portable or Fixed System)
- Air Distribution: Consists of Air Pressure Regulator, Pressure Gauge, Safety Relief Valve, and Approved Respirator Couplings. This assembly is what is called the Point-of-Attachment (POA)
- Cylinder Air: Must Be Grade-E Air Quality
- No filtration required for Grade-E cylinder air

Cylinders are available in low pressure style for ambient air pumps, requiring 3-15 psig. Hoods are available in low pressure style for ambient air pumps, requiring 3-15 psig. High pressure hoods, 25-110 psig, would require Grade-D breathing air provided by a Breather Box™.

Respirator From the Point-Of-Attachment (POA), Maximum 300 Feet of NIOSH Approved Breathing Air Hose with Approved Couplings

Sizing a Type-C / CE Airline Filtration System

Sizing of the filtration system, determining what size Breather Box™ or panel to order, is based on the air flow (CFM) and pressure requirements (PSI) of the respirators being worn and the number of workers. Air Consumption (CFM) and Pressure (PSI) ranges for representative types of respirators are listed below:

- Pressure Demand
  - 4 - 15 cfm @ 60 - 120 psi
- Constant Flow Half/Full Mask
  - 4 - 15 cfm @ 4 - 30 psi
- Constant Flow Hood (Low Pressure)
  - 6 - 15 cfm @ 3 - 15 psi
- Constant Flow Hood (High Pressure)
  - 6 - 15 cfm @ 25 - 110 psi
- Vortex Cooling Tube (Option*)
  - 15 - 25 cfm @ 60 - 110 psi

*If a vortex cooling or heating tube is used by the worker, the total air consumed is calculated by the air consumption of the vortex device.

Once the total number of workers are established and the type of respirator selected, multiply the number of workers by the maximum respirator flow rate required per worker, to determine total flow requirements:

Example:

4 x 15 cfm = 60 cfm required

Note: System pressure (PSI) will be determined by the device requiring the highest pressure in the system.

Filtration recommended: Air Systems’ BB50-CO Breather Box®, 4-workers, with CO monitor (maximum flow capacity of 79 cfm). User must have enough compressor flow (cfm) capacity to supply the above respirators, plus additional air needs placed on the system, i.e. air tools/spray nozzles.

When ordering a Breather Box®, the customer MUST specify the fittings used on the respirator selected. The Breather Box® fittings must be the same type as the respirator hose fittings to maintain NIOSH approval on the respirator and hose assembly.

All Air Systems’ filtration products are designed to flow the maximum amount of air a worker’s respirator could demand. NEVER undersize a filtration system.