



# Respiratory Safety

## Ambient Air Pumps

**Issue:** Low pressure constant flow tight fitting masks and hood style respirators require compressed breathing air to operate. These types of respirators operate between 4-15 cfm (cubic feet per minute) at a pressure range from 4-20 psi (pounds per square inch).

**Application:** Ambient air pumps are used in non-hazardous locations where the intake air is clean, breathable air. Ambient air pumps are small, oil-less, vane style compressors which compress ambient air to one atmosphere (15 psi) and provide a respirator wearer with a constant flow of fresh air to the mask or hood. The inlet dust filter and compressor filter eliminates dust particles down to 5.0 microns and delivers Grade-D ambient air to the respirator. Typically, the air pump will be set outside the work area while the work (e.g. painting or sandblasting) takes place, preventing contaminants from being drawn into the air pump intake.

**Recommendation:** Ambient air pumps are available in a 1-worker model up to a 4-worker model. Each tight fitting constant flow airline respirator requires a minimum of 4 cfm per worker and hood style respirators require a minimum of 6 cfm per worker. When choosing the correct size air pump, multiply the number of workers wearing respirators times the required CFM per worker to determine the correct air pump model. Most air pumps operate on 115 VAC with the largest units requiring a 20 amp electric service. The user must select a respirator designed to operate on low pressure ambient air pumps. Most air pumps are designed to operate with a maximum length of hose of 50 feet. Always refer to the respirator manufacturer's NIOSH data sheet to determine the proper length and diameter of hose to use with an air pump. The air pump must be outfitted with the same compatible quick connect couplings recommended by the respirator manufacturer. A universal CO (Carbon Monoxide) monitor, CO91-14LAC, is available to fit all ambient air pumps.

**Ambient air pumps are not designed for use with pressure demand respirators or Vortex cooling tubes due to the low output pressure. Air pumps cannot be used in IDLH (Immediately Dangerous to Life and Health) atmospheres.**



**BAC-20  
4-Worker Ambient Air Pump**



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### Compressors must be placed in a clean air environment per OSHA 1910.134

OSHA 1910.134(i)(6) - For compressors not oil lubricated, the employer shall ensure Carbon Monoxide (CO) levels do not exceed 10 ppm. The Portable CO Monitor, CO-91-14LAC, is available for Carbon Monoxide Monitoring

- Always choose a constant flow respirator that is designed and approved to operate with an ambient air pump
- Specify the approved respirator coupling when ordering a particular model that matches the respirator selected
- Not designed for use with pressure demand respirators or vortex cooling tubes



# Respiratory Safety

## Ambient Air Pumps



**BAC-10**  
**2-Worker Ambient Air Pump**

- Operates 1 hood style respirator or 2 tight fitting constant flow masks
- Respirator requirements **CANNOT** exceed maximum pressure of 15 psi
- Maximum 10 psi at 9 cfm output, 9.5 cfm output at 4 psi
- Electric motor: 3/4 HP, ODP, 100-115/208-230VAC, 12.2/6.1 amps, 50/60 Hz.



**BAC-17**  
**3-Worker Ambient Air Pump**

- Operates 2 hood style respirators or 3 tight fitting constant flow masks as long as the combined flow requirements **DO NOT** exceed 15 cfm at 4 psi
- Maximum pressure 15 psi at 12 cfm output, 15 cfm output at 4 psi
- Electric motor: 1.5 HP, TEFC, 115/208-230VAC, 15.2/8.2 amps, 60 Hz
- Optional HEPA intake filter, order separately (BAC-20HF-1)



**BAC-20**  
**4-Worker Ambient Air Pump**

- Operates 2 hood style respirators or 4 tight fitting constant flow masks as long as the combined flow requirements **DO NOT** exceed 20 cfm at 4 psi
- Maximum pressure 15 psi at 16 cfm output, 20 cfm output at 4 psi
- Electric motor: 2 HP, TEFC, 115/208-230VAC, 20.0/10.0 amps, 60 Hz
- Optional HEPA intake filter, order separately (BAC-20HF-1)



**CO91-14LAC**  
**Portable CO Monitor**

- Includes 1/4" industrial interchange coupling supplied on 5' hose
- Use in the closed position
- Standard alarm (95 dBA)
- Alarm jack allows for connection to remote alarm devices
- High intensity alarm available for an additional charge
- Operates on 9-volt batteries, 8-16VDC, and/or 115VAC

### Ambient Air Pumps

Description	ASI Part #
2-Worker Ambient Air Pump, 55 lbs	BAC-10
3-Worker Ambient Air Pump, 90 lbs	BAC-17
4-Worker Ambient Air Pump, 103 lbs	BAC-20

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### CO Monitor & Replacement Filters

Description	ASI Part #
Portable CO monitor, 150 psi maximum inlet pressure, and 5' hose	CO91-14LAC
Air intake filter Intake Filter for BAC-10 (Each)	BAC-10-F-1
Air intake filter Intake Filter for BAC-17 & BAC-20 (Each)	BAC-20-F-1
Compressor Filter for all air pumps (Pack of 10)	BAC-393