

Occupational Health & Safety Ambient Air Pumps

ISSUE: Low pressure constant flow tight fitting masks and hood style respirators require compressed 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 taking in ambient air and compressing to one atmosphere (15 psi) to provide the respirator wearer with a constant flow of fresh air to the mask or hood. The inlet dust filter and a carbon vane filter eliminates dust particles down to 5.0 microns and delivers Grade-D ambient air to the worker 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 operative on 115 VAC with the largest units requiring a 20 amp electric service. It is recommended the user 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, 4EEA3, is available to fit all ambient air pumps.

Ambient air pumps are <u>not</u> 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.



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 that CO (carbon monoxide) levels do not exceed 10ppm. See Grainger Model 4EEA3 for optional 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



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Product Features:



2-Worker Ambient Air Pump

- Operates 1 hood style respirator or 2 tight fitting constant flow masks. Respirator requirements **CAN NOT** exceed maximum pressure of 15 psi
- Maximum 9 cfm output at 10psi, 9.5cfm output at 4psi
- Electric motor: 3/4 HP, ODP, 100-115/208-230 VAC, 12.2/6.1 amps, 50/60 Hz, 1 phase, thermally protected, UL/CSA approved
- 0.5-0.7 micron inlet and compressor filters
- 0-30 psi pressure gauge
- Prewired with on/off switch and plug (115 VAC plug only)
- Approximate weight: 55 lbs.



5AG10 (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, 115/208-230 VAC, 15.2/8.2 amps, 60 Hz, 1 phase, thermally protected, UL/CSA approved
- 0.5-0.7 micron inlet and compressor filters
- 0-30 psi pressure gauge
- Prewired with on/off switch and plug, 115 VAC plug only, available wired for 230/460 3 phase motor
- · Approximate weight: 96 lbs.



5AC50 (BAC-20) 4-Worker Ambient Air Pump

- Operates 2 hood style respirators or 4 tight fitting constant flow masks
- Maximum pressure 15 psi at 16cfm output, 20cfm output at 4 psi
- Electric motor: 2 HP, TEFC, 115/208-230 VAC, 20.0/10.0 amps, 60 Hz, 1 phase, thermally protected, UL/CSA approved
- Available wired for 208/230 VAC
- 0.5-0.7 micron inlet and compressor filters
- 0-30 psi pressure gauge
- Prewired with on/off switch and plug (115 VAC plug only)
- · Approximate weight: 103 lbs.



Ambient Air Pumps

Description	ASI Part #	Grainger Item #
2-Worker Ambient Air Pump	BAC-10	2BC08
3-Worker Ambient Air Pump	BAC-17	5AG10
4-Worker Ambient Air Pump	BAC-20	5AC50
Replacement Compressor Filter	BAC-393	1C103
Portable CO Monitor	CO91-14LAC	4EEA3