

Proper location for Fresh Air Intake

Compressed breathing air systems draw air from an outside source to provide the air to a worker. It is important that the source of the intake be fresh outside air and not contaminated with chemicals, dust or odour.

The CSA Standard (2013) provides the following criteria for a proper fresh air intake:

A.11 Air intake installation

A.11.1 General

The location of the compressor air intake is critical to the purity of the air supplied to the respirator user. The compressor air intake assembly shall be located in an area that will minimize the intake of contaminants.

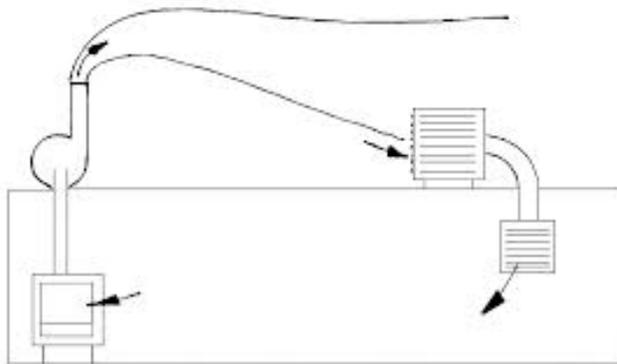
The air intake shall be

- identified as a source for breathing air by a sign or placard that also states that sources of contamination are not to be located nearby;
- located in an area free from potential sources of contamination;
- located, where practical, outside, with the intake filter assembly not less than 3 m (10 ft) above grade, and at least 15 m (50 ft) upwind from potential sources of contamination;
- protected so as not to allow entry by pests or vermin;
- periodically inspected (filters and screens shall be replaced if contaminated or damaged); and
- equipped with a wind direction indicator.

The most common issues that affect fresh air intake locations include:

Too Close to Ventilation exhaust:

CBAs are often used in spray booths. These spray booths exhaust significant volumes of air. It is important that the fresh air intake not be located so as to draw in the exhaust air from the plant itself.



The image on the left shows how exhausted air can be captured by nearby intakes. The image on the right shows a fresh air intake very close to an exhaust.

Nearby Sources of Odour and Contaminants

Care should be taken to ensure that the area near the fresh air intake is clear of materials or processes that can emit odour or chemicals. This includes open storage of chemicals, sources of dust or even garbage containers.

Safety in Numbers – Compressed Breathing Air

In the image below, the fresh air intake (shown by **red arrow**) is about 13 meters from a garbage pile. The garbage is also on the company's own property. The fresh air intake is also close the exhaust vent from the companies spray booth (**blue arrow**).

Garbage Pile 13 meters from Fresh Air Intake



Intake Located Near Combustion Source

In some cases, fresh air intakes are located where car or forklift exhaust can easily be drawn into the fresh air intake. This results in car exhaust being directed into the breathing hood or respirator of the worker. In the case below, the exhaust should be extended upwards. In addition, there should be a sign indicating the presence of a fresh air intake.

Fresh Air Intake (see red arrow) located at Ground Level in Parking Lot

