600 - 900





Cabin Air Overpressure & Filtration

Protection for operators and equipment from harmful & corrosive airborne material







Different Applications



A Pressurized Filtration Solution can be used in almost any contaminated environment

Mining, Quarrying & Demolition

Composting, Waste & Recycling



- Silica
- Asbestos
- Ash



- Ammonia
- Methane
- Harmful Biowaste

Agricultural & Chemical Applications



- Inorganic aerosols
- Agrichemicals
- Fertiliser

Asbestos



Asbestos is the name given to a group of naturally occurring minerals that are resistant to heat and corrosion. Heavy exposures are seen in the construction industry and in ship repair, particularly during the removal of asbestos materials due to renovation, repairs, or demolition.

Asbestos fibers associated with health risks are too small to be seen with the naked eye. Breathing asbestos fibers can cause a scar-like tissue in the lungs called asbestosis and result in loss of lung function that often progresses to disability and death. Asbestos also causes cancer of the lung and other diseases. Asbestos kills thousands of people each year.

Dust and HEPA Filters can provide protection from Silica, Asbestos and other harmful dust particles!



Ammonia



Ammonia is a colourless, pungent gas, which may be released into the environment during the natural breakdown of organic matter. Ammonia can be released from waste disposal sites, where workers may become exposed to ammonia through inhalation or contact with the skin.

When ammonia enters the body as a result of breathing or skin contact, it reacts with water to produce ammonium hydroxide. This chemical is very corrosive and damages cells in the body on contact.

Ammonia can be filtered by type K or AK Carbon Filters.





Silica Dust

Silica is the basic component of sand and rock. Respirable crystalline silica and quartz can be present as very fine dust, that is barely visible. If you do any of the following activities, you are at risk of breathing crystalline silica :

- Chipping, sawing, grinding, hammering or drilling of rock, concrete or masonry structures
- Crushing, loading, carrying or dumping of rock
- Power cutting or dressing stone
- Abrasion or hydro blasting of concrete

- S SILICA
- Clean-up activities such as dry sweeping or pressurized air blowing of concrete or sand dust











EU Filtration System Regulations



All Brofil systems meet or exceed NL standard NEN 4444

- Overpressure must be between 100 pa (0.014 psi) and 300 pa (0.043 psi)
- Airflow must be between 40 m3/hr (23.6 cfm) and 120 m3/hr (71 cfm)
- Outside air must go through the filters before it enters the inside of the cabin
- System must be installed out of the operator's line of sight
- Inlet of the Filtration System must be installed in such a way that the exhaust gas cannot reach the inlet
- System must be manufactured from Stainless Steel
- Automatic start-up when the machine's ignition is switched on
- The machine operator must be alerted if filters are not present
- Air outlet of the Filtration System feeds the existing intake of the ventilation, heating equipment and air conditioning system

EU Filter Regulations



EU Filter Regulation / US Recommendation

- Dust Filters (NEN-EN 779) should be replaced at a 26 week interval or when the saturation point has been reached
- Activated Carbon Filters should be replaced at 13 week intervals, or when the AOC controller in the cabin is indicating a ppm value above a pre-set level
- Activated Carbon Filters (NEN-EN 141) contain a minimum 10 Kg activated granulate in the types A,B,E,K and HG or a combination thereof
- The filter must be able to sustain at least 48 hours of operation by a concentration of 100ppm with a flow of 120 m3/hr (71cfm), contact time 0.2 seconds minimum





A guide to Worker Health in Extractives

DECEMBER 2017



APPROVED CODE OF PRACTICE

Air Quality in the Extractives Industry

SEPTEMBER 2016



New Zealand Government





SO HOW DOES CABIN OVERPRESSURE & FILTRATION WORK?

L760



A.O.C. V3

Cabin Air Quality Monitoring Control

When filtering Dust

- Automatic start-up
- A.O.C. Control gives a signal when cabin pressure is too low to ensure operator safety
- Alarms if there are no filters installed in the unit
- Continuous pressure monitoring alarm below 100 Pa (0.041 psi) or over 300 Pa (0.043 psi)





When filtering Harmful Gases

- Automatic start-up
- Continuous monitoring of cabin
 pressure
- Alarm if there are no filters installed in the unit present
- Alarm when hydrocarbon values reach 5ppm or 20ppm (ammonia)
 - Other sensors available

Quality is the Key to Success







Cabin Overpressure & Filtration for Mobile Office or Control Room









Brofil

How to get the best result from your OH&S investment?



- Identify the trucks, machines or buildings that require a COF system and determine the type and degree of contamination that needs to be controlled
- Ensure that the installation process is carried out to the highest standard
- Put an end-to-end filtration maintenance and reporting (FMR) contract in place, to ensure that the best OH&S outcomes are achieved
- Check the FMR contract allows for filter changes as required, safe filter disposal, annual pressure seal checking of your cab and annual measurement checking of your in-cab controller, to ensure your operation remains compliant
- Save your FMR reports with other important company documents, for peace-ofmind in case of a future challenge to your operation
- Ensure that the FMR service provider is passing best-practice information to your drivers and operators, for ongoing training support

What if we do nothing about respiratory health?

The Health and Safety at Work Act 2015 (HSWA) is the key health and safety law. It sets out the health and safety duties that must be complied with.

ACOP Air Quality in the Extractives Industry – Section 1.0/1.3 – WHAT IS THE LEGAL STATUS OF THIS CODE?

This code has been approved under HSWA. It can be used in court as evidence of whether the relevant duties under health and safety law were complied with.

Courts may have regard to this code:

- As evidence of what is known about risks relating to air quality in the workplace, and how those risks can be controlled
- To decide what is reasonably practicable for managing air quality in the workplace

GOOD SOLUTIONS ARE AVAILABLE, THEY ARE AFFORDABLE, AND THEY WORK TO PROTECT US AT WORK.



