

SAFEair Pressurised Cabin Air Conditioning and Filtration Unit

The world's leading filtration and pressurisation system



Greater return on investment



Safer working environment



Future proofing your mine site

FREUDENBERG
FILTRATION TECHNOLOGIES

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We deliver a SAFER mine site

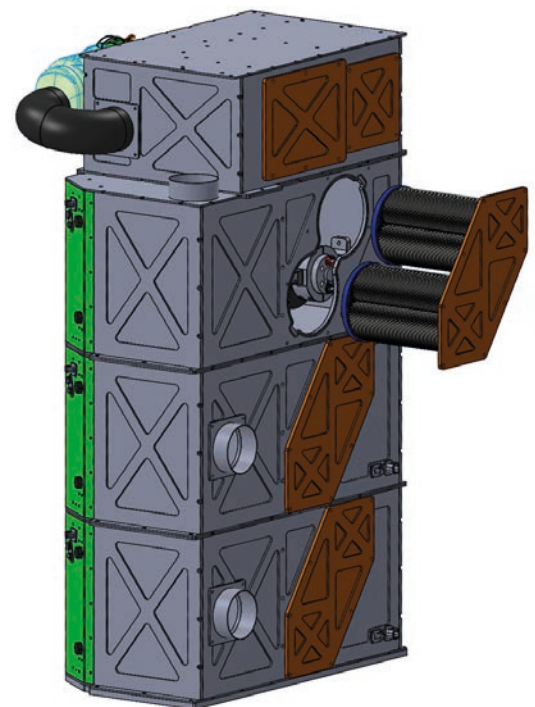
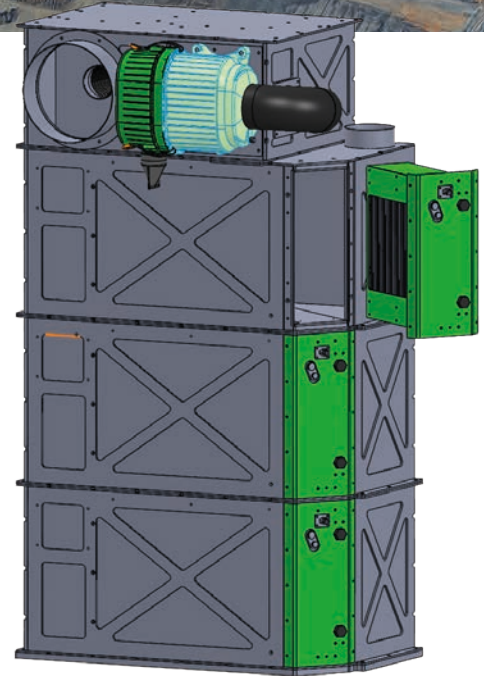
How SAFEair works:

The SAFEair Unit is a complete HEPA filtered replacement air conditioner which will bolt directly in place of the existing HVAC units in Hitachi Dash-5 & Dash-6 excavators. It offers HEPA pressurisation, HEPA recirculation and optional carbon block SO₂ removal.

Faster cab cool down, the SAFEair Unit is capable of 200l/s per air conditioner to give a combined total of 600l/s recirculation, compared to 300l/s combined units from the current units.

- Reduce HVAC break downs and machine down time.
- Eliminate the need to replace the evaporators every year.
- Reduce the number of service & maintenance activities performed.
- Provide a hospital grade HEPA clean air environment within the cabin.
- Electronic climate control system with diagnostic readout replaces the existing Hitachi control system.
- CNC machined billet aluminium construction.
- Evaporator and heater cores are never exposed to dust, giving reliable and consistent performance.
- Enable extended service / overhaul and replacement intervals.

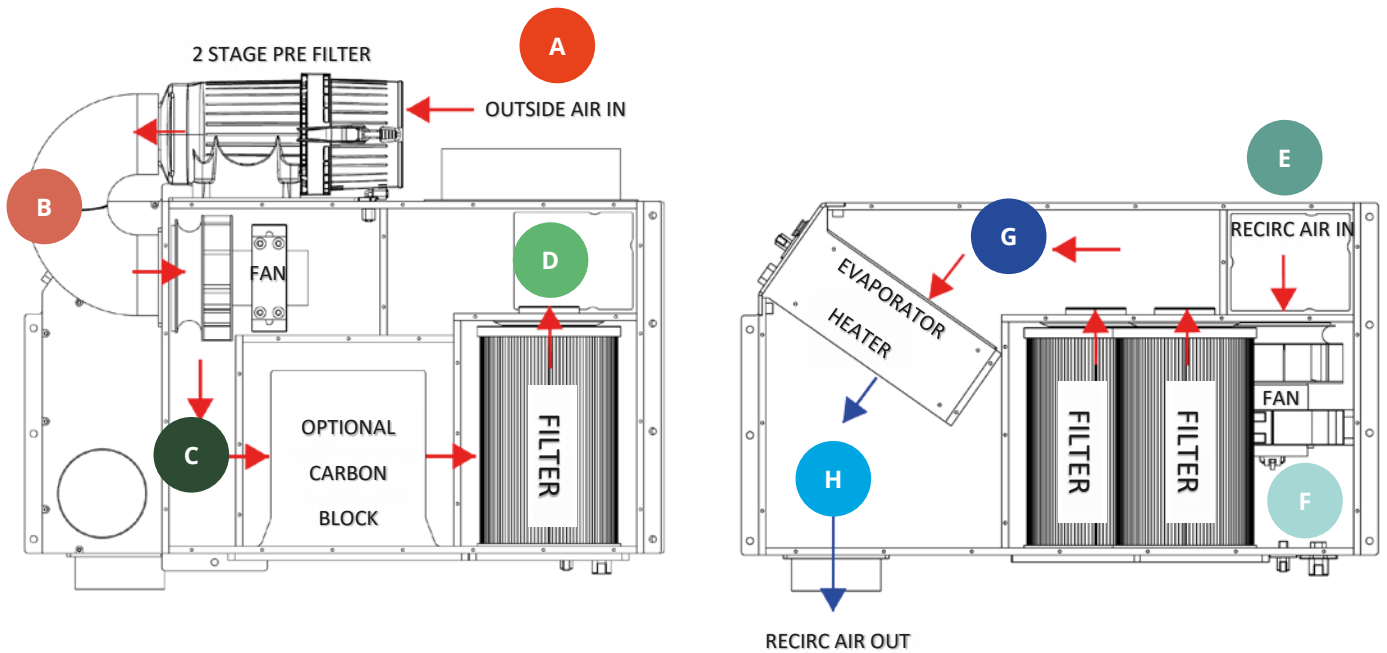
Simply replace the original equipment HVAC with the SAFEair unit to eliminate nuisance service calls and premature overhaul and replacement schedules.



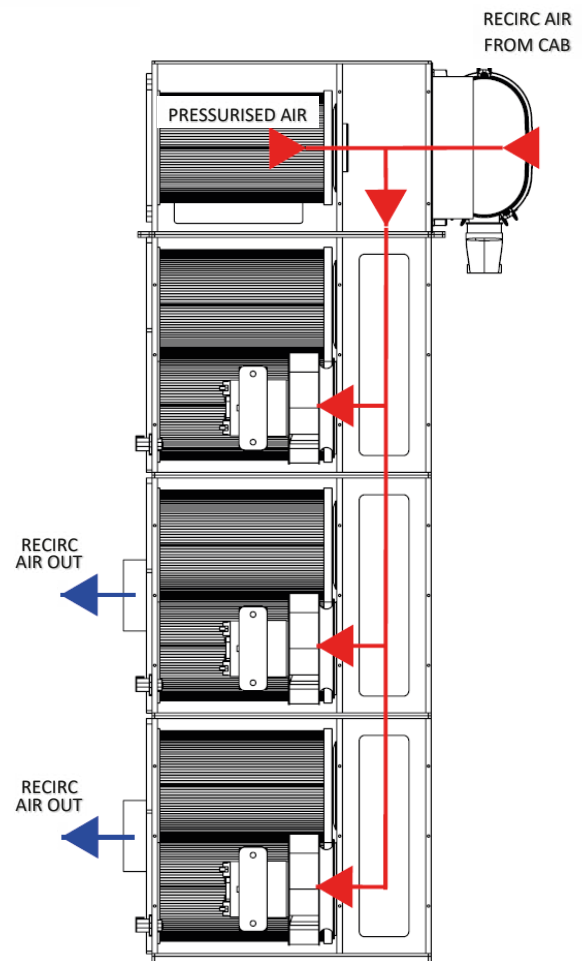
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How the unit works:



- A** Fresh air enters into the Pre-Filter assembly, and filters out the heavy contaminant dust particles through the cyclonic dust ejection system and coarse air filter
- B** The air moves through the precleaner ducting towards the fan which pushes it to the carbon block
- C** The air moves through the optional carbon block area, removing contaminant gases like SO₂
- D** The second stage HEPA filter, then filters out 99.995% of 0.3micron particles
- E** The recirculation fans draw air from the top tier prefilter plenum down to the 3 HVAC filtration units below
- F** The air is pushed through the recirculation HEPA filters
- G** The filtered air passes through the evaporator and heater cores and is heated or cooled
- H** The HEPA filtered and conditioned air is sent to the cab via the existing Hitachi ducting



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Benefits:



QUICK REMOVAL OF RESIDUAL IN CABIN

Occupants entering into the cabin expose the cabin to the outside dust. Once the cabin door is shut the SAFEair unit quickly removes the contaminated air via the suction pipe through to the HEPA filters to deliver clean air back into the cabin.



INCREASED AIR CONDITIONING PERFORMANCE

There is increased air conditioning system reliability due to the integrated A/C evaporator and higher airflow is achieved (200l/s) OEM and aftermarket units currently advertises 100l/s so the air flow is doubled.



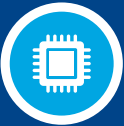
HOSPITAL GRADE AIR

The HEPA filters provide hospital grade air into the cabin.



LEAK PROOF SYSTEM

The suction line remains under positive pressure at all times. In the unlikely event of a hole occurring in the suction line, the air will still flow out the suction pipe and not back into the cabin due to the positive pressure.



EXTENDED LIFETIME OF ELECTRONIC COMPONENTS IN CABIN

All of the cabin's electronic components such as switches and connectors last longer because they are not exposed to dust. In addition, the end of shift cleaning time is greatly reduced.



CONSISTENT MINIMUM PRESSURE

The SAFEair system delivers a constant minimum required pressure to adequately pressurize the cab. To exceed the mine site standards.



REDUCED CO₂ LEVEL IN CABIN

When a new SAFEair unit is fitted to a mine vehicle, the cab is deliberately not entirely sealed. Purged air is exchanged for HEPA clean, fresh air resulting in lower levels of CO₂ in the cabin.



CLEAN EVAPORATIVE COIL

The evaporative coil of the vehicle's air conditioner remains clean, as it is not exposed to dust due to integration with the SAFEair unit.



CASSETTE STYLE EVAPORATIVE COIL

In the event of a refrigerant leakage and coil failure, the coil can be easily interchanged within minutes and does not require disassembly of the entire unit, drastically reducing downtime.



EXACT RETROFIT TO EXISTING A/C UNIT (SIGMA OR HITACHI)

Our unit has the same footprint as the existing A/C unit for easy interchange and installation.