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# THE BAT VENT - FILTRATION AND PRESSURISATION SYSTEM

Quarry and mine workers in environmental enclosures are surrounded by dynamic working conditions that have highly variable dust sources. These enclosures create a micro-environment where workers can be either more protected or more vulnerable to respirable dust and other contaminants. Filtration and pressurisation systems are the primary engineering control to reduce worker exposure to airborne dust in enclosed cabs, operator booths, and control rooms.

Dust accumulating in enclosures or site offices can be just as harmful as respirable dust on clothing and outdoors. The Bat Vent is a highly effective industrial dust collector, developed to keep the air indoors clean.

The revolutionary **Bat Vent**, an air purifying system comes on the heels of our other highly dust collection successful products, including the Bat Booth (a personnel dedusting system) and Burnley Baffles (a bulk handling dust suppression system). The Bat Vent is specifically designed to comply The Queensland with Government Department of Natural Resources, Mines and Energy criterion and also meets standards set by the National Institute for Occupational Safety and Health (NIOSH).

The Bat Vent is a single body which is inclusive of a fan, HEPA filter, option for multiple installations, pre-filter to protect the HEPA for heavy environments, and a control module.



## MIDECO'S SOLUTION





## THE WORKING OF BAT VENT

The Bat Vent's technology works in different stages:

Firstly, the air enters the through vents. **Secondly**, the air flows down through a prefilter. The function of the prefilter is to protect the HEPA filter from becoming prematurely blocked as high-level result of dust contamination. After passing through the pre-filter, the air will flow down through the HEPA filter, which strips dust particles from the air stream.

Lastly, the air exits the filtration compartment and is drawn into the fan and pushed into the room at a certain volume and pressure. A pressure monitor inside the room monitors the room pressure and adjusts the speed of the fan by means of a variable speed driver. If the room pressure is too low, it will speed up the fan, and if the pressure is too high, it will slow the fan down.

Once this process is completed, air will exit the room through an air outlet.



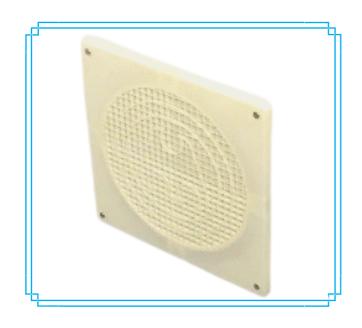
## MAIN COMPONENTS

#### **USER-INTERFACE MODULE**



- 1. Touch Screen
- 2. Real time readouts including:
  - Target pressure
  - Actual pressure
  - Alarm pressure
  - Visual alarm
  - Fan Operating
  - Condition/RPM
- 3. Real time data provision ports including:
  - Pressure in room
  - Low Room Pressure Alarm





**INLET PORT** 

- 1. Sound attenuation
- 2. Aesthetically pleasing appearance and screw heads

#### **DUCT OPTIONS**

- 1. 3 x removable and interchangeable plates thus allowing for duct from both sides and one end.
- 2. Multiple duct pieces and fittings to allow for infinite building interface connections

All packaged in a single box for simple delivery and installation by your maintenance personal.

## **BAT VENT ON SITE**

Project for 'The Burdett Group Pty Ltd'







