

# Ventsim™ CONTROL

Automated mine ventilation optimization software



From the surface, remotely monitor, control and automate real-time airflow and ventilation in your mine. Pre-programmed, easy to use. Easily expands for growing operations.

**Ventsim CONTROL uses real-time data to continuously optimize and redirect airflow for peak efficiency and safety in all active levels and headings in your mine as production priorities shift.**

## **Ventsim CONTROL communicates with all hardware and instrumentation in your mining infrastructure**

No programming is needed at the surface. Ventsim CONTROL automatically adjusts airflow according to real-time needs in the mine, and allows easy point-and-click manual control as needed.

Regulators

Dampers

Vehicle and personnel tracking systems

Fans:

- Variable frequency drives
- On-off starters

Monitoring and control stations:

- Temperature and humidity
- Gases including oxygen, hydrogen, nitrous oxide, carbon monoxide, sulfur dioxide, nitrous dioxide, hydrogen sulfide
- Diesel particulate matter
- Pressure
- Airflow Sensors

## **How the system is set up**

Howden mine ventilation engineers use Ventsim DESIGN to model and analyze the mining ventilation infrastructure.

Howden mine ventilation engineers design an optimized ventilation system for your mine, integrating your existing infrastructure into Ventsim CONTROL.

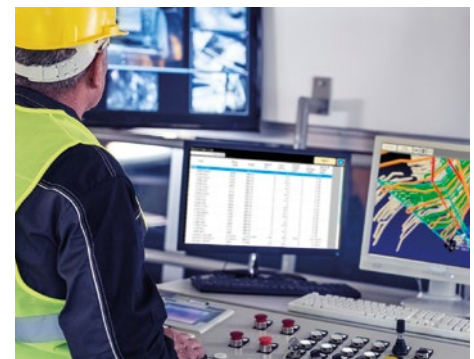
Your Howden team quickly installs any additional hardware and instrumentation required using our plug-and-play compatibility.

Your monitoring and control systems are linked with Ventsim CONTROL over the communications network.

Operators receive on-site training to use Ventsim CONTROL to optimize mining ventilation.

As mine conditions change, Ventsim CONTROL automatically recalculates and adjusts using the latest information.

Howden provides ongoing support and maintenance, either on-site or remotely.





#### For further information contact:

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## Five levels of control

### 1 – Manual

The operator uses the Ventsim CONTROL interface to remotely turn fans on or off, to modify their speed or to set the % on regulators. Settings stay as they are until manually changed.

### 2 – Automatic schedules and events

Ventsim CONTROL automatically changes underground fan and regulator settings as part of a schedule such as shift changes or planned events such as blasting.

### 3 – Automatic set points

The operator enters set points for airflow, gas levels, and/or temperature. Ventsim CONTROL reads real-time conditions from monitoring stations, then automatically adjusts underground fan and regulator settings to maintain set points.

### 4 – Dynamic requirements (VOD)

Ventsim CONTROL uses dynamic tracking to determine requirements for airflow, gas levels, and temperature based on personnel and vehicles in each area. Ventsim CONTROL reads real-time conditions from monitoring stations and automatically adjusts underground fan and regulator settings to maintain safe and comfortable working conditions in a dynamic environment.

### 5 – Complete infrastructure optimization including main fans

Ventsim CONTROL reads real-time conditions from monitoring stations and automatically optimizes underground fan and regulator settings, and also adjusts main fan settings to maintain required levels and maximize energy savings. This level of optimization controls the ventilation system as a whole using advanced control strategies designed for mine ventilation applications.



This product is a part of **TMVS – Total Mine Ventilation Solutions**, the integrated suite of expertise, products and services that provides efficiency and safety across your mine operations.