

# Serpent Automatic

Smart automatic module which minimizes energy consumption while ensuring adequate air flow quality and a perfectly regulated underground environment



# Optimal air quality underground

The Serpent Automatic ensures good air quality with continuous, automatic optimization of fan speed and energy consumption. Based on regular monitoring of carbon monoxide and nitrogen dioxide levels, the fans are adjusted to ensure adequate air flow and a perfectly regulated underground work environment.

## ⊕ Main benefits

**A complete solution** for better air quality and healthier work environment in conjunction with Serpent fans and ducting

**Safety first** by continuously measuring and adjusting air quality in the working zone

**Energy and cost efficiency** thanks to the autonomously regulated ventilation system



Your system can be enhanced with additional sensors to continuously ensure an excellent work environment and comply with local regulations



Serpent Automatic is delivered as a central module which can be added to your existing Serpent fan or system – or other ventilation systems variable frequency drive (VFD)



The user interface is clear and concise, with all the data you need to continuously evaluate energy consumption and air quality

Control module



Variable frequency drive



Sensor module



Operator module



Wifi antenna

Wifi indicator and CO<sub>2</sub> sensor

Wifi antenna

Includes back-up battery

Sensor override

Wifi antenna and NO<sub>2</sub> sensor



# Control the air. Control your business.

Serpent Automatic is delivered as a part of a total Serpent ventilation system, or as a central module to be mounted onto your existing Serpent fan station. The highly accurate CO<sup>2</sup> and NO<sup>2</sup> sensors are placed at the face of the tunnel or mine, quickly adjusting fan speed for adequate ventilation and air quality at all times.



## + Easy to upgrade, install and operate

Your Serpent ventilation system can easily be upgraded to include the new automatic functions. It is easy to install, maintain and reposition throughout your underground project. Its central module has a built-in, 2-hour battery which allows you to unplug it from a power source to relocate it while ventilation is maintained.



## + Dependable and efficient

Serpent fans are dependable, quietly running fans connected to our durable PVC-coated ducts to guarantee system reliability. It is designed to further boost ventilation efficiency through smart, automatic operation.



## + System configuration

Serpent Automatic is a part of Epiroc's complete Serpent ventilation system offering for tunneling and underground mining operations. The system has been expertly designed to deliver optimized ventilation and economy.



## A comprehensive service offering

Even the best equipment needs to be serviced regularly to make sure it sustains peak performance. An Epiroc service solution offers peace of mind, maximizing availability and performance throughout the lifetime of your equipment. We focus on safety, productivity and reliability.

By combining genuine parts and an Epiroc service from our certified technicians, we safeguard your productivity – wherever you are.



## Sensor unit (A20)

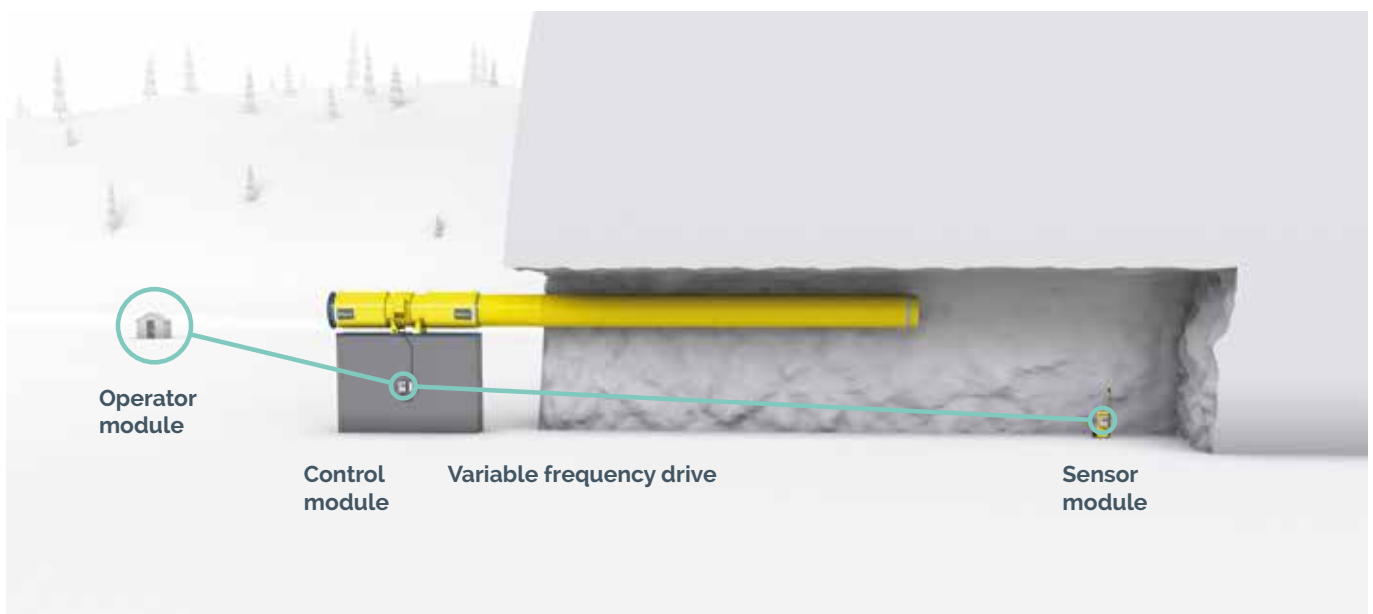
Technical specification		
Supply voltage	110-240 VAC 50-60 Hz (single phase)	
Wireless	Wifi IEEE 802.11	
Enclosure	IP66	
Operation time on battery backup	2 h	
Dimensions	Metric	Imperial
Width	650 mm	25.6 in
Height	1 950 mm	76.8 in
Depth	550 mm	21.7 in
Weight	50 kg	110 lb
Sensors		
O2 detection	4-20 mA, operating range 0-25 ppm	○
CO detection	4-20 mA, operating range 0-300 ppm	●
SO2 detection	4-20 mA, operating range 0-10 ppm	○
NO2 detection	4-20 mA, operating range 0-10 ppm	●
Temperature sensor	4-20 mA	○

## Control unit (A10)

Technical specification		
Supply voltage	110-240 VAC 50-60 Hz	
Wireless	Wifi IEEE 802.11	
Enclosure	IP66	
Cabinet dimensions	Metric	Imperial
Width	300 mm	11.8 in
Height	400 mm	15.7 in
Depth	155 mm	6.1 in
Weight	10 kg	22 lb

## Operator unit (A30)

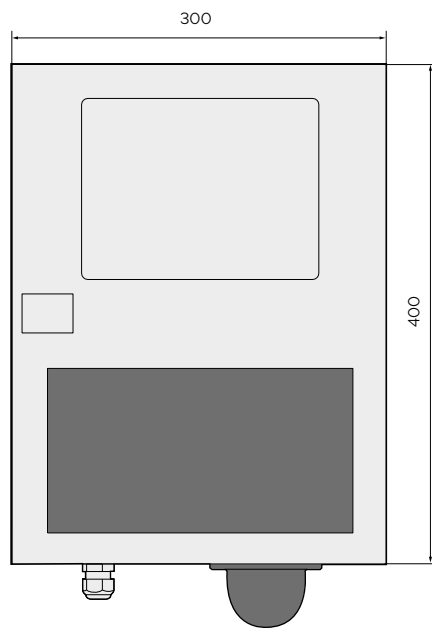
Technical specification		
Supply voltage	110-240 VAC 50-60 Hz	
Wireless	Wifi IEEE 802.11	
Enclosure	IP66	
Screen	Data log/USB outlet 7" color touch panel	
Cabinet dimensions	Metric	Imperial
Width	300 mm	11.8 in
Height	400 mm	15.7 in
Depth	155 mm	6.1 in
Weight	10 kg	22 lb



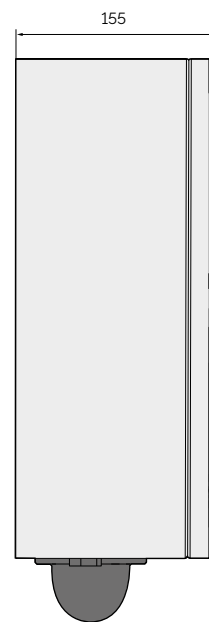
Principal setup for Serpent Automatic in a tunnel.

# Technical specifications

## Operator module and control module

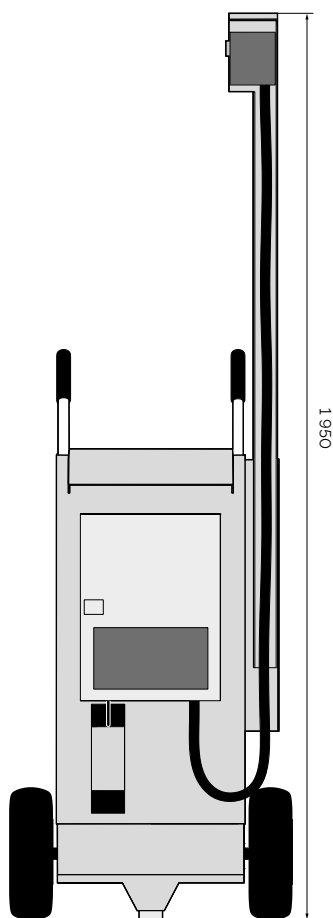


Front view

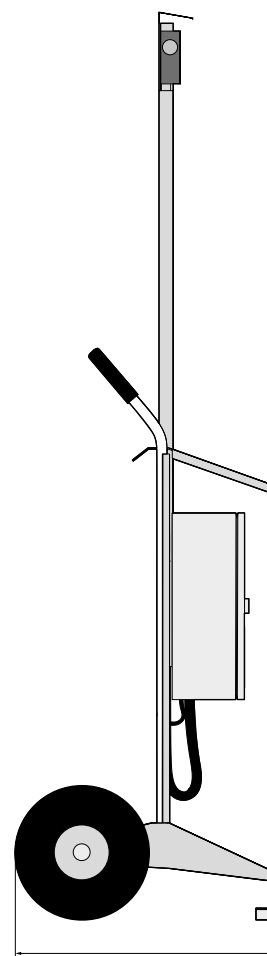


Side view

## Sensor module



Front view



Side view



9869 0013 01 2018-04 01/2018 Epiroc. Legal Notice © Copyright 2018. Epiroc Rock Drills AB, Orebro, Sweden. All product names in this publication are trademarks of Epiroc Rock Drills AB. Any unauthorized use or copying of the contents or any part thereof is prohibited. Illustrations and photos may show equipment with optional extras. No warranty is made regarding specifications and equipment, are subject to change without notice. Consult your Epiroc Customer Center for specific information.

# United in performance. Inspired by innovation.

Performance unites us, innovation inspires us, and commitment drives us to keep moving forward. Count on Epiroc to deliver the solutions you need to succeed today and the technology to lead tomorrow.  
**[epiroc.com](http://epiroc.com)**

