



CAVITY MONITORING SYSTEM

# Cavity Monitoring System

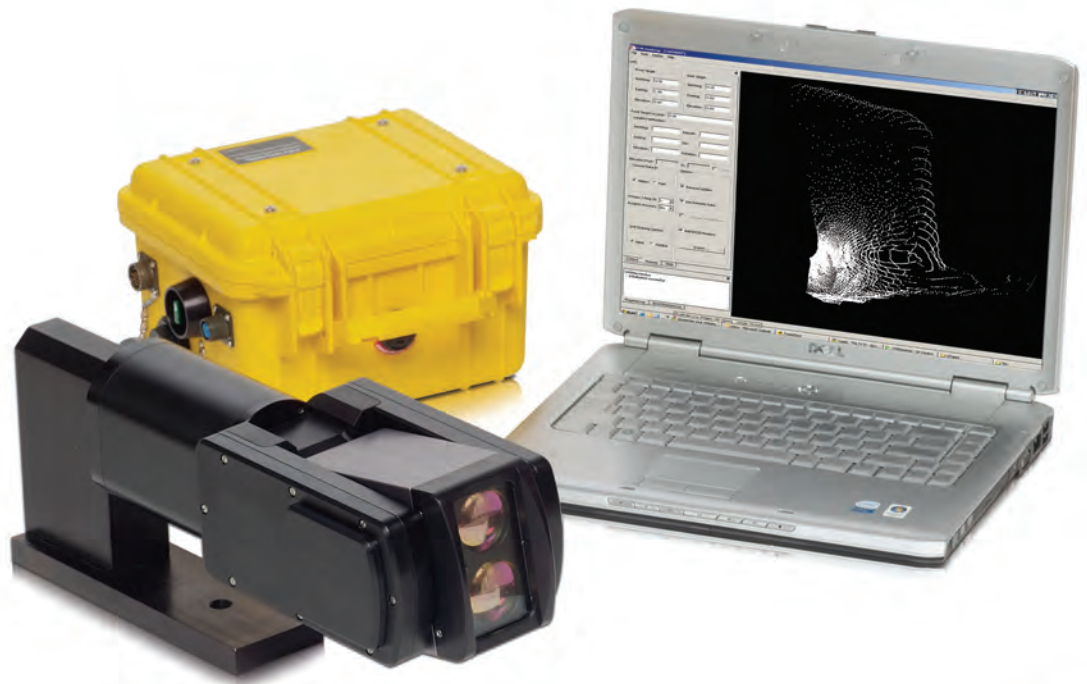
## Summary Specification Sheet

### Key Features

- Measurements to non-cooperative targets
- User-friendly operation
- Real-time data visualization
- Automated leveling
- Fast data acquisition rate
- 360° x 290° field of view
- Fast, accurate, precise 3D models of cavities
- Safe monitoring of inaccessible areas

### Benefits

- Increase stope production
- Reduce dilution
- Calculate backfill volume
- Investigate backfill and blast efficiency



The Cavity Monitoring System has revolutionized the surveying of under-ground cavities. Developed for underground mining environments, the CMS delivers a fast, accurate, 3D surveying solution in a configuration that meets the needs of working underground—compact and rugged, with sealed optics and specialized accessories.

CMS



Stope Method

Caving Method

Vertical Method



# Cavity Monitoring System

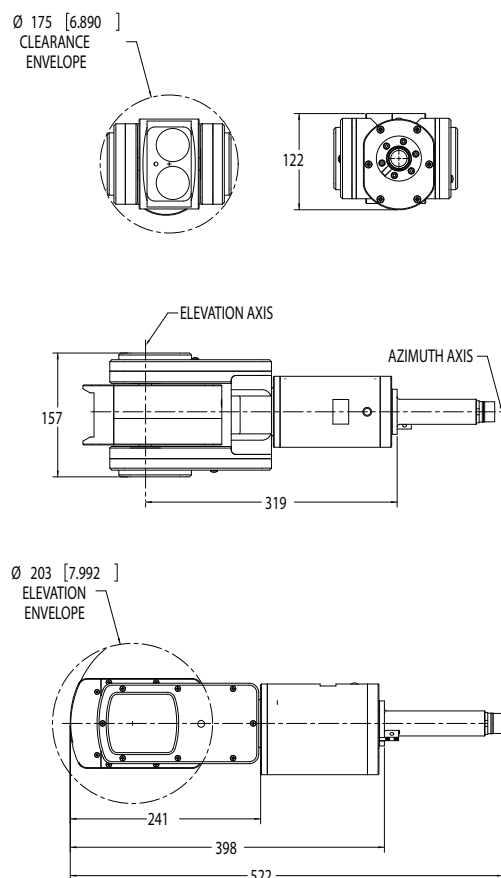


## The CMS Advantage

The CMS collects thousands of accurately located points that are used to determine a cavity's size, orientation and volume, and to create detailed engineering drawings. Universally accepted data formats ensure that CMS data can be used in any software workflow.

Developed in the 1980s, and patent-protected since then, the Optech Cavity Monitoring System (CMS) has become synonymous with underground surveying. With hundreds of systems shipped worldwide, the CMS continues to provide fast, reliable and efficient scanning and monitoring of underground cavities.

Parameter	V400
Range capability	200 m @ 20%; 500 m @ 90%
Minimum range	15 cm
Horizontal angular range	360°
Vertical angular range	290°
Range accuracy <sup>1</sup>	±2 cm
Range resolution	1 mm
Angular accuracy	0.1°
Angular resolution	0.022°
Min step size (azim and elev)	0.25°
Scan time (1 x 1 degree)	6 min
Points per scan (360 x 290 degrees)	52200
Operating temperature	-10° to +50°C
Weight, scanning head	5.4 kg
Weight, battery case	7.6 kg
Wireless connectivity	Yes
Operating power	24 VDC
Scanner diameter	175 mm
Water and dust protection	IP65 <sup>2</sup>
<b>Optional Accessories</b>	
Vertical Insertion Package	PC/PDA
Volume Calculation Software	Boom + Mast Sets
Tripod Mounting Bracket	Backpack



<sup>1</sup> Performed under Optech test conditions

<sup>2</sup> Designed to meet IP65



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