DESCRIPTION

The Multicrete Raise Robot™ is a remotely controlled robotic assembly for the spraying of shotcrete; used in shafts and raises of subterranean excavations. This robotic unit is designed for use in mines and on large civil construction projects.

Standard Multicrete Raise Robots™ are designed for use in raises a minimum of 1.5 meters diameter up to a maximum of 10 meters diameter. Hydraulic retractable arms stabilize the Multicrete Raise Robot and allow for undulations along the interior surface of the raise.

In 2008 Multicrete™ completed a 3.5 meter diameter X 300 meter raise.

A second raise, over 400 meters in depth was completed in 2009.

OPERATING PRINCIPLE

The Multicrete Raise Robot™ is lowered by means of a heavy-duty incremental winching system. This system allows for variable speeds from 5 cm/minute up to 6 m/minute.

During its descent, the Multicrete Raise Robot™ washes (hydro-blasts) the interior surfaces, as well as videotaping the entire raise.

On its return, the unit commences spraying shotcrete in a uniform single pass. The electric motor on the spray head allows for 360° non-stop rotation.
APPLICATION OF SHOTCRETE:
The Multicrete Raise Robot™ is used in conjunction with the ALIVA electric powered shotcrete machine mounted on a Multicrete™ Integral Predampener. Predampened material is conveyed through 50 - 65 mm. diameter heavy duty hose for the remote application of shotcrete via the Multicrete Raise Robot™.

At surface level, technicians monitor the progress of the Multicrete Raise Robot™ via video display. This allows for the rate of application to be modified without personnel entering the raise.

SHIPMENT
All the required equipment, spares and accessories can be compacted for shipment into a 20’ sea container. The Multicrete Raise Robot™ collapses to just 1.8 meters in height, 2.7 meters in length and 1.8 meters in width for ease of transport.