



[www.multicretesystems.com](http://www.multicretesystems.com)

## RAISE ROBOT®

*For Remote Shotcrete Spraying Raises up to  
400 Meters Deep*

The RAISE ROBOT® is a remotely controlled robotic assembly for the spraying of shotcrete; used in shafts and raises of subterranean excavations. Together with the RAISE RANGER®, these robotic units are designed for use in mines and on large civil construction projects.



*Raise Robot® at top of  
Raise Shaft*

Standard RAISE ROBOTS are designed for use in raises a minimum of 1.5 meters diameter up to a maximum of 5.5 meters diameter. Spring-loaded retractable arms stabilize the 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 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 RAISE ROBOT washes (hydro-blasts) the interior surfaces.

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.

*Raise Robot® Completing  
Top Meter of 3.5 m x 300 m  
Deep Raise*





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*Setting up the Raise Robot®  
over the Vent Raise*

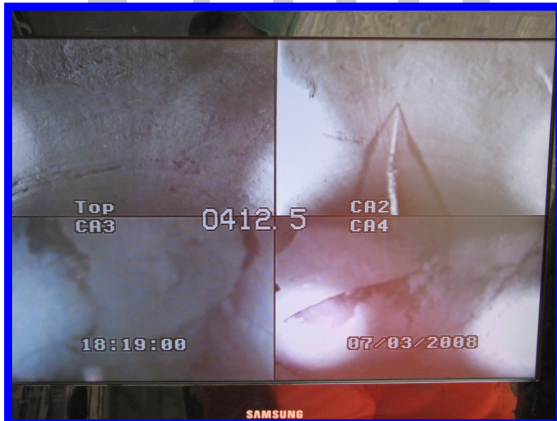
### APPLICATION OF SHOTCRETE:

The RAISE ROBOT is used in conjunction with the **AL 252** electric powered shotcrete machine mounted on a **Multicrete Integral Predampener**. Predampened material is conveyed through 50 mm. diameter heavy duty hose for the remote application of shotcrete via the RAISE ROBOT.

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



*Bulk Bags of Dry Pre-Blended  
Shotcrete Suspended over Pre-  
dampener Hopper*



*Split Screen Viewing of Shotcrete  
Application*

### SHIPMENT:

All the required equipment, spares and accessories can be compacted for shipment into a 20' sea container. The 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.