

Remote Shotcrete



Mancala's remote shaft shotcreting process ensures an efficient and safe non-entry method of applying ground support to shaft walls.

Wireless communication provides real time monitoring and a video feed to precisely control the 48 volt spray head, methane monitoring control system and shotcrete application parameters.

Capabilities

- Shafts of 2.4m to 5.5m diameter
- 400m standard depth configuration
- Plug and play arrangement
- Modular design
- Pre and post HD video resolution recording
- Intrinsically safe low voltage components in shaft
- Live methane monitoring with shutdown system
- Application from 10mm thickness
- Minimal surface set up works required
- Unit has been used in both NSW and QLD coal mines



The Mancala Group

Ph: +61 (0) 3 8562 9400

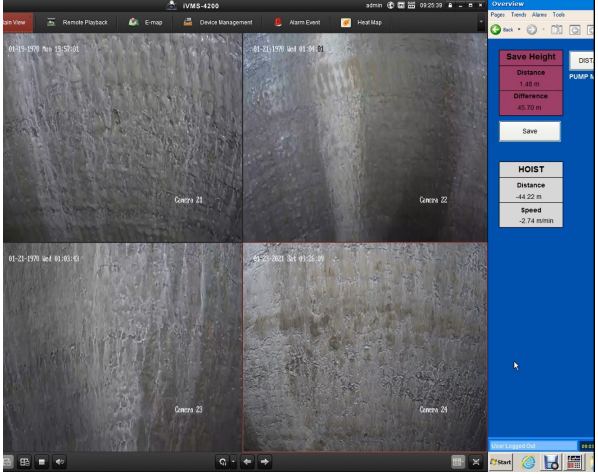
Email: enquiries@mancala.com.au

www.mancala.com.au

Modular Design

The system is designed for both simplified transport and set up with individual modules which are then placed and connected at the collar point of the shaft, with minimal civil infrastructure required.

Mod-	Description	W (mm)	L (mm)	H (mm)	W (kg)
1	Control room, crane, energy chain winch	2400	9500	3300	16000
2	Service & Product Lines	2400	2000	2500	1200
3	Large Spray Head Unit	1200	1200	2000	800
4	Small Spray Head Unit *	600	600	1800	300
5	Reed Lova Dry Mix Concrete Pump	800	800	1200	200



* available pending application



Application Process

Remote shotcreting is a method of applying shotcrete/concrete product to a surface using a remotely controlled spray head which applies product in a horizontal plane while simultaneously being moved vertically. The surface control system, operator console, winches, and dry mix pump are positioned at the shaft collar. The spray head and service lines are lowered into position using an onboard crane/winch system.

The application process is monitored via high definition digital video camera positioned on the spray head which wirelessly transmit real time footage back to the control station.

The shotcrete product is supplied via a dry mix pump and is pneumatically delivered to the spray head unit, where water is added at a predetermined amount to the dry mix. The spray head is continually rotated allowing the wet mixture to be applied in horizontal layers to the shaft wall. Application thickness is control by the surface operator varying the product feed rate and the speed of vertical advance.

The Mancala Group

- **SAFETY:** Striving to achieve zero harm
- **QUALITY:** Taking pride in what we make and do; on time, on budget and to specification
- **INTEGRITY:** Doing what we say we will do with honesty and respect
- **INNOVATION:** Revolutionising processes and applying technology to achieve better outcomes for all stakeholders
- **PEOPLE:** Recognising people as our greatest asset and encourage personal excellence