2. Ergonomic Progression

1. Introduction
2. Remote mounted Controls
3. Bolter mounted Controls
4. Electronic Push Button Control System
5. Two Speed Drillhead
6. 3D Modelling of Work Area
Ergonomics of Underground Coal Mining Equipment

**Bolting Systems**

**Bolter Mounted**

**Past**

**Present**

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**Ergonomics of Underground Coal Mining Equipment**

**Bolting Systems**

**East West**

**North South**

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**Ergonomics of Underground Coal Mining Equipment**

**Bolting Systems**

**Push Button Station**

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**Ergonomics of Underground Coal Mining Equipment**

**Bolting Systems**

**Push Button Station**
Ergonomics of Underground Coal Mining Equipment

Bolting Systems

Drillheads

Variable Displacement Drillhead
- 35 L/min
- 875 RPM (10cc)
- 200 bar
- 357 N/m (28cc)

V2i Drillhead
- 90 L/min
- 638 RPM
- 200 bar
- 350 N/m
3. Crinum Case Study

1. Introduction
2. Project
3. Problem
4. Solution
5. Outcomes
Ergonomics of Underground Coal Mining Equipment
Bolting Systems
The Future

1. The Challenge.

2. What you can do.

3. What do we need?