

Ergonomics of Underground Coal Mining Equipment Bolting Systems

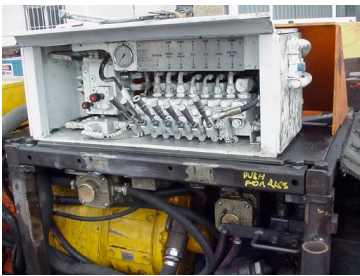
2. Ergonomic Progression

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



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Past



Present



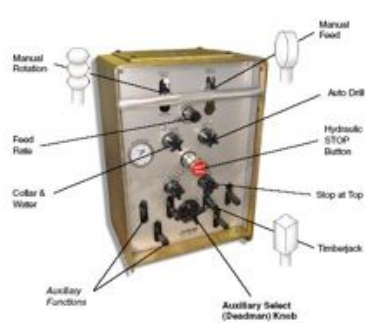
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GRV

Mast Mounted



Remote Mounted



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Bolting Systems

Bolter Mounted

Past



Present



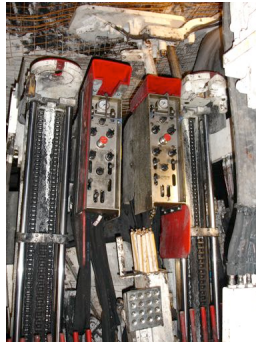
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East West



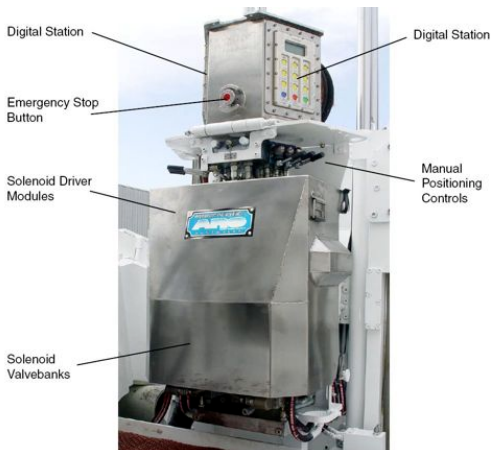
North South



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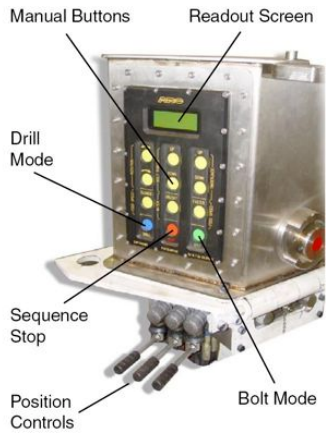
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Push Button Station



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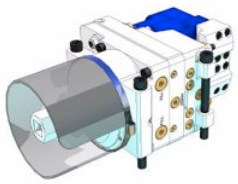
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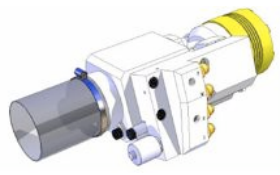
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Drillheads



Variable Displacement Drillhead

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



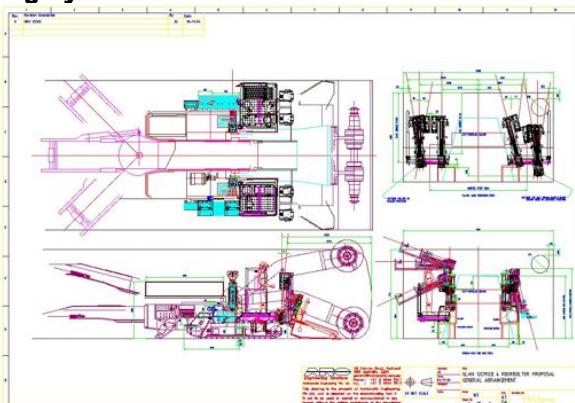
V2i Drillhead

- 90 L/min
- 638 RPM
- 200 bar
- 350 N/m



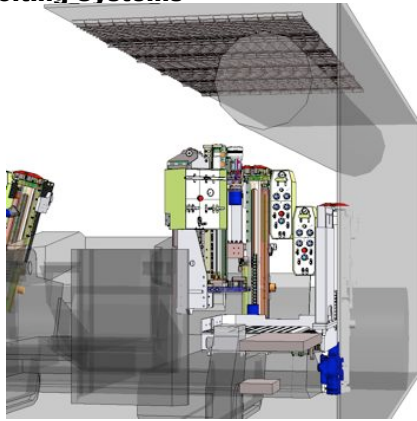
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3. Crinum Case Study

1. Introduction
2. Project
3. Problem
4. Solution
5. Outcomes

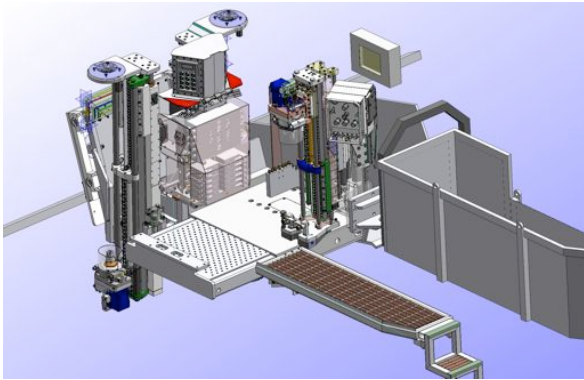


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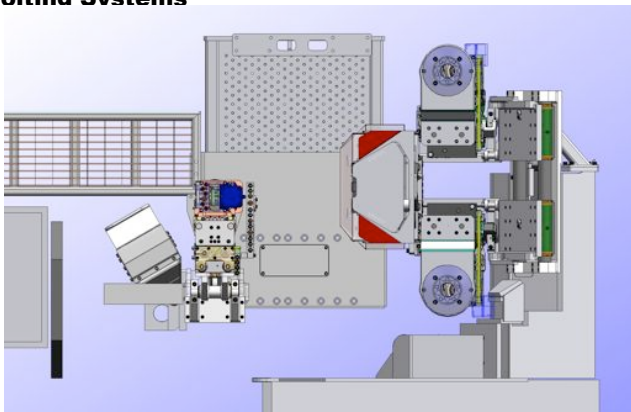
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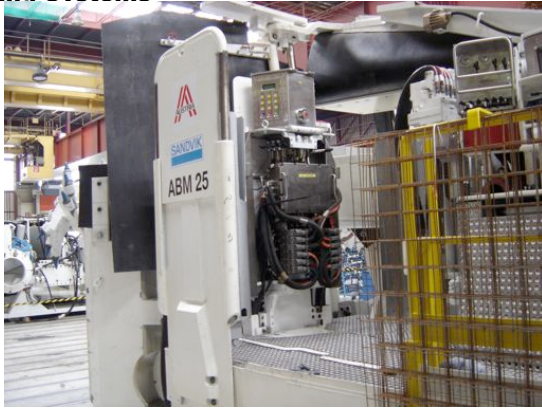
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The Future

1. The Challenge.
2. What you can do.
3. What do we need ?

