

Bolt Angle Indication

Technical specification



Bolt Angle Indication is a support software that gives guidance of the rock bolting operation in mining and tunnelling projects.

Introduction

The Atlas Copco Bolt Angle Indication system focuses on guiding the operator to install bolts with the correct distance between the bolts.

By using Atlas Copco's Bolt Angle Indication guidance system, there is no longer any need to mark the walls to achieve the correct bolt pattern, and if different operators install bolts, the job will always be done with the same spacing and with minimum human error.

Benefits

» Quality

- Operator will get guidance on how to install the bolts with correct burden, without having to do painting on the wall and roof

» Safety

- Bolts can be installed the same way regardless of who is operating

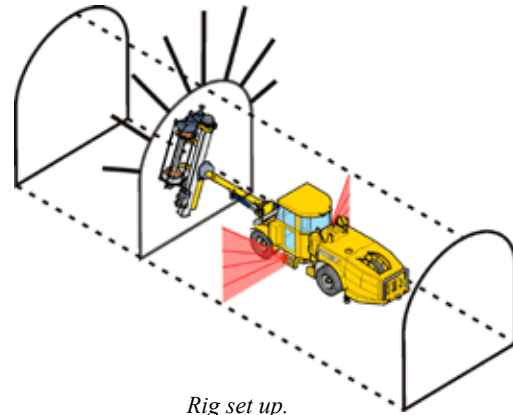
» Production

- Faster positioning
- Reduced secondary rock reinforcement

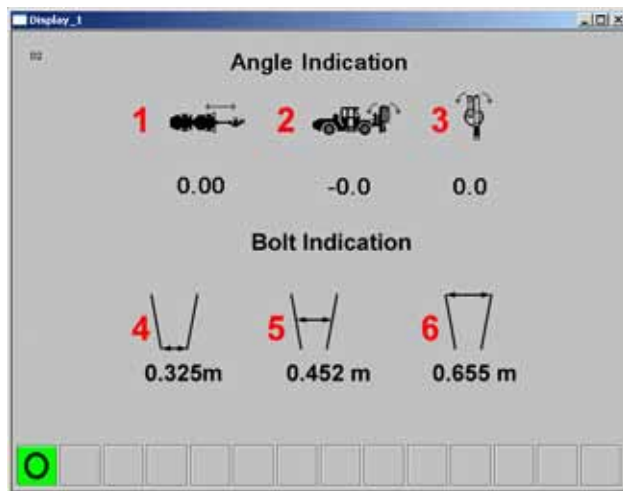
Function

» Rig set up

The bolting boom on the drill rig is equipped with sensors at all joints and these feed the Rig Control System (RCS) with information on the position of the boom. The rig is set up in the tunnel by using rig alignment lasers.



Rig set up.



Bolt Angle Indication menu at setup.

» Operating

The operator sets up the bolting rig and receives information via the Bolt Angle Indication menu. The menu shows how to position the bolting boom in order to stay in line on the same bolt row (1) and maintain the correct tilt (2) and rotation (3) angles of the boom. While installing bolts, the operator can see exactly what the distance between the bolts will be in three different views; at the starting point (4), at half the bolt length (5) and at end of the bolt (6).

Components

- Six navigation sensors placed on the boom
- Functions in the RCS to handle the Bolt Angle Indication
- Alignment lasers

Requirements

- Boltec rock bolting rig with Rig Control System