

AZIMUTH ALIGNER WIRELESS

Improve Drilling Productivity

ALIGN A SURFACE OR UNDERGROUND DRILL RIG IN LESS THAN 5 MINUTES.

The Azimuth Aligner wireless addresses the age old problem...

"How to align a drill rig in less than 5 minutes, in an underground environment."

Traditionally; pins, string lines or flagging tape have been used to set out an azimuth to which the driller must align his rig. This is both time consuming and inaccurate resulting in errors in drill collar azimuth alignment.

The Azimuth Aligner utilises the latest technology in highly robust north seeking gyros, requiring no calibration and provides Absolute Precision in drill rig alignment $\pm 0.1^\circ$.

AZIMUTH[®]
ALIGNER



Absolute Precision

KEY FEATURES

- > Operates surface and underground
- > Seeks True North in <15 minutes (Az = $\pm 0.1^\circ$)
- > No GPS or Compass
- > Wireless communication to Trimble display, tracks movement, live
- > 10 hours battery life
- > Charge battery and operate at same time
- > Trimble USB charger
- > Save data to database
- > Clamp fits BQ to HQ rod sizes
- > Robust measuring device
- > Very simple to use, driller friendly

BENEFIT

- > Align a drill rig in < 5 minutes (Azimuth and Dip)
- > Improve Drilling productivity and efficiency
- > Azimuth to True North (Surface and Underground)
- > No pins or string line required
- > Increase setup accuracy
- > Reduce land surveyors collar set-out time
- > Not affected by magnetics

Technical Specifications

GYRO SENSOR

Azimuth Accuracy	≤ 0.1° sec Lat RMS True North
Dip Accuracy	≤ 0.01°
Settling time	15 minutes
Operating Temperature	-40°C to +71°C (-40°F to +159°F)
Waterproof Rating	IP68
Vibration	IEC-60945 & MIL STD 167-1A
Shock (survival)	MIL STD 810G (method 516-6)
Electromagnetic	IEC-60945 MIL-STD-461E
MTBF	45000 hours

TRIMBLE DISPLAY UNIT JUNO T41 C

Operating System	Android
Display	109 mm (4.3 inch)
Operating Temperature	-30°C to +60°C (-22°F to +140°F)
Waterproof rating	IP68
Shock (survival)	MIL STD 810G

Azimuth Aligner

The Azimuth Aligner utilises the latest North Seeking Gyro technology to rapidly and accurately determine true north. After just 15 minutes the Azimuth Aligner will provide an azimuth relative to true north increasing in accuracy over time. By placing the device onto a drill rod at collaring, the driller is now able to accurately and quickly align the drill rig to a given azimuth and dip.

For the first time in the industry the Azimuth Aligner solves the problem of rig alignment underground and to a precision of 0.1°.

Trimble Rugged Display

The rugged IP68 rated Android hand held provides the driller with an easy to use wireless display of the azimuth and dip. The Azimuth Aligner Icon starts the inbuilt software with easy to follow prompts.

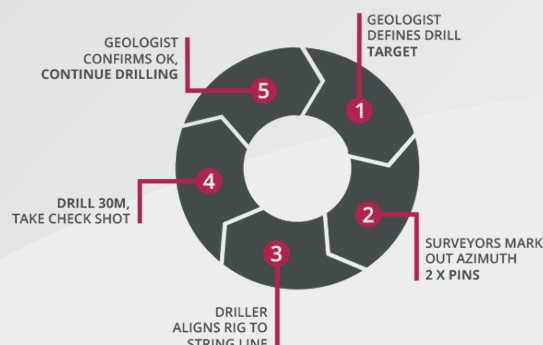
The Trimble's in built GPS provides accurate Latitude 1-2m and is auto input into the settings field or can be manually input. Azimuth and dip final setup data for each hole is saved to the database and can be retrieved for QC purposes at any time. The data can exported to a CSV file, emailed to the client or saved to a report file for QC purposes.



Improve Drill Productivity

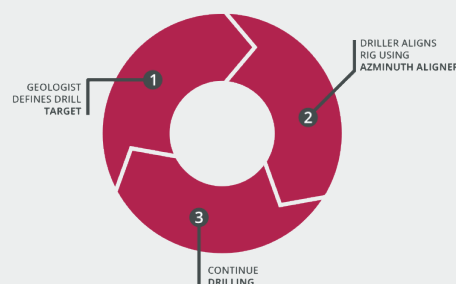
TRADITIONAL ALIGNMENT

Azimuth Accuracy



AZIMUTH ALIGNER PROCESS

4 Hrs + Zero Wait Time



Azimuth Aligner Wireless eliminates 3 steps associated with the process of aligning a drill rig. Downtime waiting for land surveyors and geologists to approve the drill setup is removed. The rig setup can be checked by verifying the data from the Azimuth Aligner Wireless database. Bit on bottom time increases.

Monster Pack

Azimuth Aligner Wireless adds significant value to reference survey instruments creating a high precision north seeking survey instrument. The output from the Azimuth Aligner at time of drill rig setup is fed into the survey instrument as a 0 depth reference direction.

Monster Pack – DeviFlex
Monster Pack – MEMS Gyro
Monster Pack – QC Production hole measuring

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mayris@downhole.com.au
Ph +61 (0) 409 289 285



www.downhole.com.au



Award

Azimuth Aligner wins the category "Innovative Mining Solution" at the 2013 Australian Mining Prospect Awards in Sydney, Australia