AZ100 TOTAL GUIDANCE SYSTEM

Azimuth Tunneling Navigation System with Self-Leveling Station Units for Microtunneling, Pipe Jacking and Tunneling Operations

Maintains Location Measurement Connection Throughout the Alignment Without the Need for Continuous Manual Surveying

FEATURES

Assembly includes: TGS 100 Active Target, Shaft Station Assembly, Pipe Station Assembly, prism mount with adjustable pipe ring, storage container, and license key

For extended and curved tunneling, pipe jacking and microtunneling applications

Initial tunnel survey for tunnel and ends points is the only survey required

Comprised of individual station units with motorized/robotic theodolites on self-leveling tripods that maintain a location measurement connection throughout the alignment without the need for continuous manual surveying

TGS 100 Active Target is axially mounted behind the machine's articulation cylinders at line and grade, and registers the position and angles of incidence of the red laser emitted from the guidance system

Shaft Station in positioned in the launch shaft, acts much like a traditional pipe laser

The first Pipe Station is added at 300-ft., and additional pipe stations are added as required along the alignment to maintain a location measurement connection between all stations, pipe station with self-leveling tripod is mounted to adjustable pipe ring with hinged blocker plate to prevent false readings

Stationary measurement prisms located around the jacking shaft provide known reference points for guidance system location and azimuth

1,000-3,500-ft. range of distance between stations can be achieved, dependent upon prism size, tunnel diameter and atmospherics

Combined stations communicate a continuous electronic distance measurement to monitor exact machine X, Y and Z positioning, and real-time cutter head location

With the proprietary AZ100 software program on the operator’s control console

Shaft station power is derived from the control container/center, pipe stations are powered by the MBTM/TBM

AZ100 TGS surveys itself 3-4 times per 10-ft. of pipe during mining operations; location measurement takes less than one minute, survey interval is programmable

Operators are able to manually activate a location measurement from the control container to calibrate during pipe changes

Can be utilized as a stand alone guidance system for any tunneling, pipe jacking or microtunneling application regardless of equipment manufacturer

Data recording and reporting capabilities for customizable reporting at any mining interval

Control Container Screen with AZ100 TGS Control Module

Pipe Station with adjustable pipe ring and hinged blocker plate to prevent false prism readings

TGS 100 target is axially mounted behind the MTBM's articulation cylinders at line and grade, registers the position and angles of incidence of the red laser
**STAGE 1: LAUNCH MTBM/TBM WITH SHAFT STATION**

**STAGE 2: INSTALLATION OF THE PIPE STATION AT 300-LF.**

**INSTALLATION ON AN ALIGNMENT WITH A CURVE**