

# FUGRO LOADTEST SONICALIPER® REAL-TIME EXCAVATION INSPECTION

Remove the uncertainty of drilled shaft excavation inspection with SONICaliper™. Using sonar technology, it provides a full 360-degree, three dimensional measurement of shaft excavations for a profile of shape, alignment and verticality. With immediate detailed results, engineers, designers and contractors know that shafts have been constructed according to specification and meet quality standards.

The SONICaliper is a cost-effective quality control and quality assurance tool for deep foundation excavations such as drilled shafts, slurry walls (barrettes) and secant pile walls. SONICaliper's operation is independent of drill rigs and other construction equipment which frees the equipment for use elsewhere and eliminates potential of outside influence on the data.

It measures the distance to the side walls and creates an image revealing the actual

shape, volume and verticality of the excavation. SONICaliper provides this detailed information in an hour or less. Effective in dry, water, polymer or mineral slurry environments, SONICaliper provides outstanding results in real-time display. Using proprietary software, it creates "as-constructed" images and calculations immediately after the excavation is profiled.

SONICaliper provides an advantage to quality control by supplying information that

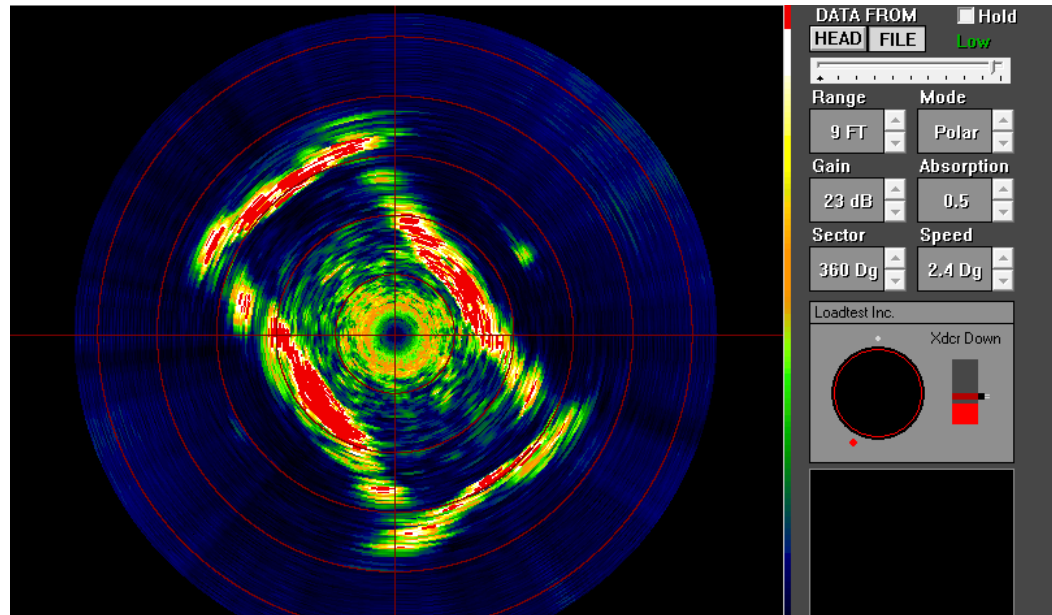


*The SONICaliper equipment in use*

allows for pro-active management of conditions in the excavation prior to construction proceeding. Anomalous and non-spec conditions may be evaluated for impacts to shaft quality prior to the reinforcing cage insertion and concrete placement:

- Defined volume allows informed concrete supply and placement control
- Alignment and verticality information allows control of reinforcement cage placement
- Signal return inference of slurry column particulate presence assists slurry cleaning control.

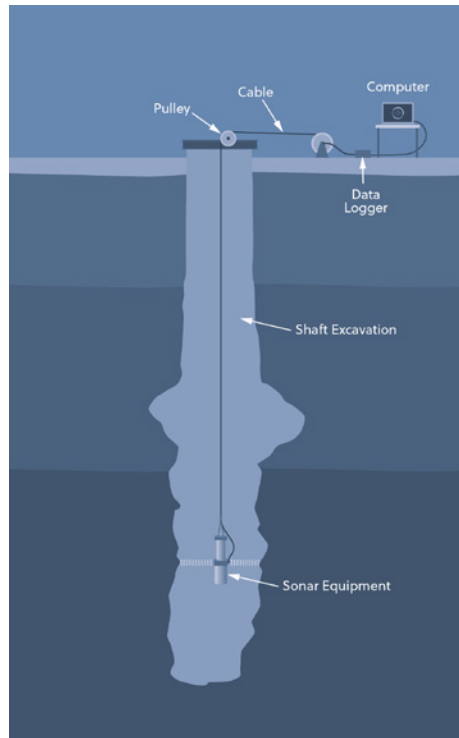
SONICaliper's timely job site information gives the engineer, designer and contractor additional confidence for the manufacture of a quality shaft as specified.



SONICaliper is effective on barettes as well as shafts

### Specifications

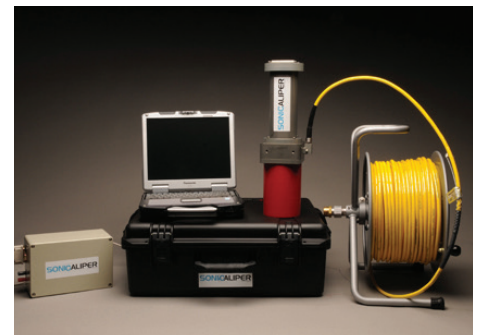
Weight:	14 lbs (6.4 kg)
Height:	18 inches (457 mm)
Width:	6.5 inches (165 mm)
Operating Depth:	Typical operating depths up to 100 meters (capable of operating at greater depths if necessary)
Operating Environment:	Wet environment: Bentonite, Polymer or Natural Slurry Dry environment
Data Collection:	60 to 400 data points per scanned level
Laptop:	Panasonic ToughBook®
Data Output:	PDF, CSV for Excel import, AutoCAD Script File, and XYZ data points
Power Requirements:	12 VDC or 110/120/230/240 VAC
Accuracy:	¼ inch (6 mm)
Patent:	US 7495995



The SONICaliper determines shaft dimensions, shape, alignment and verticality.



Real-time data and results



The SONICaliper equipment