

# SONIC IMAGING COMPARISON



Pile Dynamics, Inc.

There are several electronic equipment options in the industry to measure verticality and shape of a drilled shaft. These devices can be used to measure the verticality and shape on drilled shafts, slurry walls, barrettes and more. They use similar ultrasonic technology. A comparison of technical characteristics is provided on the table below:

Features	SHAPE®	Competition A	Competition B
<b>Sensor Type</b>	Ultrasonic	Ultrasonic	Ultrasonic
<b>Mounting options</b>	Kelly Bar or Winch	Winch Only	Winch Only
<b>Operating shaft Diameter</b>	0.66m to 6 m (2.2 ft to 20 ft)	0.5 m to 3 m (1.6 to 9.8 ft)	0.5 m to 4 m (1.6 to 13 ft)
<b>Operating Environment</b>	Water, Bentonite, and Polymer Slurry	Water, Bentonite, and Polymer Slurry	Water, Bentonite, and Polymer Slurry
<b>Real Time Data Acquisition</b>	Yes	Yes	Yes
<b>Normal Data Collection Time for 30 m (100 ft) shaft</b>	~3.5 min	~20 min	~4 min
<b>Operating Depth</b>	150 m (492 ft)	100 m (330 ft)	100 m (330 ft)
<b>Radial Measurement Accuracy</b>	±1.6mm (±0.07 in)	±6 mm (±0.25 inch)	± 2%
<b>Percent Verticality Accuracy*</b>			
<b>For a 30 m (100 ft) shaft length</b>	0.125%	0.50%	-
<b>For a 10 m (30 ft) shaft length</b>	0.42%	1.67%	-
<b>Typical Vertical Resolution</b>	0.3 m (1 ft)	1.2 m (4 ft)	Not specified
<b>Remote Testing Technology</b>	Yes, Sitelink®	No	No
<b>Data Recording/Output</b>	Dedicated Software	Dedicated Software	Recording Paper
<b>Profile View options</b>	360°, 2D and 3D	360°, 2D and 3D	2D
<b>Power Requirement</b>	Battery: 6-hr continuous usage	AC 110	AC 220
<b>System weight:</b>	74 kg (170 lbs)	~42 kg (95 lbs)	178 kg (393 lbs)
<b>Unit:</b>	34 kg (65 lbs)	~20 kg (45 lbs -incl. spool)	57 kg (126 lbs)
<b>Winch Components:</b>	40 kg (105 lbs)	~22 kg (50 lbs)	121 kg (267 lbs)
<b>Operating Temperature</b>	-20 C to +55 C -4 F to 131 F	Not Specified	-10 C to +50 C 14 F to 122 F
<b>Costs</b>	\$	Not for purchase	\$\$

\*Percent Verticality Accuracy computed from Radial Measurement Accuracy/shaft length

Note: Technical characteristics of Competition A & B presented herein in purple cells, are as taken from the respective manufacturer's website. Values in green cells are calculated values and are not directly received from the public data.

For additional information, visit [www.pile.com](http://www.pile.com) or contact us at [info@pile.com](mailto:info@pile.com).