Pile Dynamics, Inc.
www.pile.com • 1.216.831.6131

Technical Specifications

Shaft Area Profile Evaluator (SHAPE®) for Wet Holes

SHAPE Sensor Unit

Size:

- 254 x 660 mm (10 x 24.5 in); without Kelly bar adapter

Weight:

- 34 Kg (65 lbs.); without Kelly bar adapter

Material:

- Stainless Steel, Aluminum, and PVC

Universal Kelly Bar Adapter:

- 101.6 mm (4 in), 203.2 mm (8 in)

Temperature Range:

- Operating -20° to 55°C (-4° to 131° F); Storage: -40° to 85°C (-40° to 185° F)

Power:

- 6-hour continuous usage with external 12V battery

Sampling Rate:

- 1 MHz Sampling Frequency
- 2 Pressure Transducers for continuous real time fluid density and depth measurement
- 2 - 85 kHz Ultrasonic Transducers for continuous real time wave-speed measurement
- 8 – 85 kHz Ultrasonic Transducers for continuous Shaft Radial measurement
- Radial Measurement Accuracy down to 1.58 mm (0.0625 in)

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Rev. 10.2026

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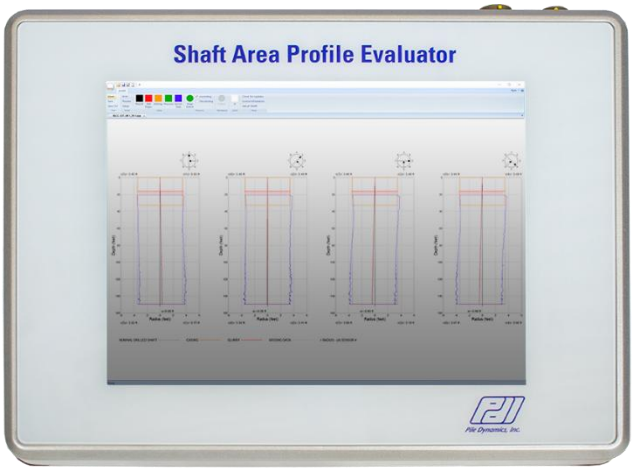
SHAPE Main Unit

Size:
- 320 X 250 X 68 mm (12.6 x 9.8 x 2.7 in)

Weight:
- 5 Kg (11 lbs.)

Temperature Range:
- Operating 0° to 40°C (32° to 104° F); Storage: -20° to 65°C (-4° to 149° F)

Display:
- 26.4cm (10.4 in), sunlight readable, resolution 1024 X 768; capacitive touch screen



Video Outputs:
- HDMI

Battery Power:
- 4-hour continuous data collection 12V battery + back-up battery standard

Charging Time:
- 6-hour max; 120/240 charger input voltage

Operating System:
- Microsoft Windows® 10 or higher IoT Enterprise LTSC

Data Storage and Ports:
- 256 GB or larger SSD internal drive; Ethernet port; 4 USB ports

Shaft Criteria

Minimum Shaft Diameter:
- 66 cm (26 in)

Maximum Shaft Diameter:
- 6.3 m (20.7 ft)

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Maximum Shaft Length:

- 150 m (492 ft)
- Data Collection in Water, Polymer Slurry, and Bentonite Slurry

Maximum Sand Content During Data Collection:

- 5%

Maximum Viscosity for Bentonite Slurries: 38 sec
Maximum Viscosity for Polymer Slurries: >100 sec depending on polymer design

Other

Optional External Accessories:

- USB keyboard and mouse

Remote Operation:

- SHAPE Main Unit is equipped for high-speed internet access and remote operation

Technical Support:

- SHAPE Main Unit is equipped for remote error checking and updating

Units of Operation:

- English, SI, or Metric
- Full one-year warranty on parts and labor
- Technical manual provided in PDF form on a USB