



Pile Dynamics, Inc.

Quality Assurance for Deep Foundations

Shaft Area Profile Evaluator (SHAPE™) Specifications

February 2021

SHAPE Data Collector Assembly

Size: 254 x 660 mm (10 x 26 in.) *** Without Kelly bar adapter***
Weight: 30 Kg (65 lbs.) *** Without Kelly bar adapter***
Material: Stainless Steel and Aluminum
Standard Kelly Bar Connection Sizes: 101.6 mm (4 in), 152.4 mm (6 in), 203.2 mm (8 in)
Temperature Range: -20 to +55°C Operating; -40 to +85°C Storage
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
9 - 85 kHz Ultrasonic Transducers for continuous Shaft Radial measurement
Radial Measurement Accuracy down to 1.58 mm (0.0625 in)

SHAPE Tablet

Size: 320 X 250 X 68 mm (12.6 x 9.8 x 2.7 inches)
Weight: 5 Kg (11 lbs.)
Temperature range: 0 to 40°C operating; -20 to 65°C storage
Display: 26.4cm (10.4"), sunlight readable, resolution 1024 X 768; capacitive touch screen
Video Outputs: HDMI, VGA
Battery Power: 4-hour continuous data collection 12 V battery + back-up battery standard
Charging time: 6-hour max; 120/240 charger input voltage
Operating System: Microsoft Windows® 10 IoT Enterprise LTSC
Data storage and ports: 128 GB or larger SSD internal drive; Ethernet port; 4 USB ports
Optional external accessories: USB keyboard and mouse
Remote Operation: SHAPE Tablet is equipped for high speed internet access and remote operation
Technical support: SHAPE Tablet is equipped for remote error checking and updating
Units of operation: Traditional US, SI, or Metric
Full one-year warranty on parts and labor
Technical manual provided in PDF form on a USB

Shaft Criteria

Minimum Shaft Diameter: 457 mm (18 in)
Maximum Shaft Diameter: 6300 mm (247 in)
Maximum Shaft Length: 150 m (492 ft)
Data Collection in Water, Polymer Slurry, and Bentonite Slurry
Maximum sand content during data collection: 10%