Quality Assurance for Deep Foundations

Pile Dynamics, Inc.

Shaft Area Profile Evaluator II (SHAPE®) Specifications *21-291*

SHAPE Sensor Unit

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: 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)

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 IoT Enterprise LTSC
Data storage and ports: 128 GB or larger SSD internal drive; Ethernet port; 4 USB ports

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%

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

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