



*Pile Dynamics, Inc.*

## **Pile Installation Recorder (PIR-Q) Specifications**

21-121

### Main Unit

Size: 60 x 180 x 228 mm (2.36 x 7.08 x 8.97 in)

Weight: 1.5 kg (3.30 lbs.)

Mounting: Inside crane cabin

User Interface: High Visibility Color LCD with LED Backlighting

Power: 12 or 24 V DC (Typically uses crane battery).

Temp Range: operating 0° to 40° C (32° to 104° F); storage -20° to 65° C (-4° to 149° F)

Electronics: PC compatible processor, running Microsoft Windows® 10; 32-bit Microprocessor with 10-bit Analog to Digital Converter

Data Storage: Minimum of 128 GB Solid State Drive (SSD)

Data Export: USB

Printer Interface: USB

### Flow Tube-Meter

Type: Magnetic Flow Meter

Mounting: In line with main grout line, 76 to 152 mm diameter (2.99 to 5.98 in)

Size: 775 x 405 x 470 mm (30.5 x 15.9 x 16.02 in)

Weight: 47 kg (3.30 lbs.)

Max Flow Rate: 625gpm with 76 mm (2.99 in) grout line; 2440gpm with 152 mm (5.98 in) grout line

Accuracy:  $\pm 2\%$

### Grout Pressure Measurement Unit

Type: Pressure transducer

Mounting: On magnetic flow tube

Max Range: Up to 1000 PSI

Output Signal: 4-20mA output

### Torque Measurement Unit

Type: Pressure transducer (hydraulic pressure applied to gear motor - "torque pressure" – relates to auger torque)

Mounting: On Hydraulic line powering the gear box

Max Range: Up to 10000 PSI

Output Signal: 4-20mA output



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Quality Assurance for Deep Foundations

Depth Measurement Unit:

	Wireless (US patent No. 8612175)	Conventional Wired
Type	Rotary encoder on spring tensioned arm-assembly	Rotary encoder on a self-retracting reel
Mounting	Attaches to auger gear box	In boom of crane, cable attaches to gear box
Size	600 x 150 x 150 mm (23.6 x 5.9 x 5.9 in)	305 x 910 x 910 mm (1 x 2.98 x 2.98 in)
Weight	12 kg (26.45 lbs.)	73 kg (160.9 lbs.)
Max Range	200 m (656.16 ft)	49 m (160.7 ft)
Resolution	0.6 mm (.02 in)	0.6 mm (0.2 in)

Wireless Rotation Measurement Unit

Type: Proximity switch  
 Mounting: Mounts on gear box  
 Size (diameter x length): 18 x 50 mm (0.05 x .16 in)  
 Weight: 114 g  
 Functionality: Normally open  
 Max Switching Frequency: 200 Hz  
 Sensing range: 10 mm (.39 in)  
 Repeatability: .01 mm (.0003 in)

Wireless Transmitter

Size: 60 x 76 x 175 mm (2.36 x 2.99 x 6.88 in)  
 Weight: 0.7 kg (1.54 lbs.)  
 Transmission Range: 100 m (3.93 in)  
 Frequency: 2.4 Ghz  
 Electronics: 32-bit 24 MHz microcontroller, 12-bit digital to analog converter  
 Mounting: On auger gear box  
 Power: Rechargeable battery, size 60 x 76 x 175 mm (2.36 x 2.99 x 6.88), run time at least 24 hours  
 Temp Range: 0° to 40° C (32° to 104° F), operating; -20° to 65° C (-4° to 149° F) storage

Other

Paper Summary Print Out for each Pile  
 User selectable depth increment  
 Results in SI or English units  
 Includes PIRPLOT Software License  
 One-year warranty on main unit  
 Technical manual provided in PDF form on a USB drive