

I/A Series

Magnetic Flow Product Application



Description

Our family of volumetric and magnetic flowmeters is the proven best choice to meet the accuracy, dependability, and cost challenges of your process. No matter what you are measuring, Foxboro has the right flowmeter for the job. These flowmeters are easy to install, operate, and maintain. Even after years of hard use, they will keep on delivering the measurement integrity your process requires. And when you need fast delivery, our local stocking service FoxStock will provide it.

Features/Benefits

Magnetic flowmeters and transmitters

- Liquids:
 - Clean
 - Corrosive
 - Slurries
 - Sanitary
- Measure 0 to 99,000 gpm
- Compact ISO standard lengths
- Multiple liner and electrode material
- Continued advancement in technology
- FoxCom, HART, and analog protocol
- Simple keypad configuration
- On-line diagnostic/help capability
- Rangeability 40:1
- Accuracy to $\pm 0.25\%$ of flow rate
- Repeatability to $\pm 0.1\%$

FOXBORO[®]



Figure 2. Series 8000 magnetic flowmeter, with a Model IMT25 magnetic flow transmitter



Figure 1. PIR-A system components

Augercast Pile Foundations Measuring Grout Volume Pumped

It is very important for the construction industry to obtain records of the installation of deep foundations. When augercast piles are the deep foundation of choice, the installation record should consist of a log of volume of grout pumped into the foundation shaft versus depth. Measuring grout volume pumped with accuracy is of paramount importance.

Pile Dynamics has developed equipment (Pile Installation Recorder™ for Augercast Piles, PIR-A) that automatically records the installation of augercast piles. Components are shown in Figure 1. The Foxboro Series 8000A magnetic flowmeter, with a Model IMT25 magnetic flow transmitter (Figure 2), is an integral part of the PIR-A. The flowmeter is installed in the grout line, and transmitter output is processed by the PIR-A main unit. This unit displays the grout volume versus depth increment in graphic form. The crane operator installing the foundation can thus control the volume of grout pumped to meet the foundation engineer's minimum specifications.

The grout used in augercast pile foundations is composed of water, cement, aggregate (sand or small gravel), and chemical additives. The conductivity of grout varies between 10,800 and 17,000 $\mu\text{S}/\text{cm}$, depending on the additives used. These values are several orders of magnitude above the 2 to 5 $\mu\text{S}/\text{cm}$ required by our Foxboro magnetic flowmeter for a reliable flow measurement. In the United States, the grout typically flows from the grout pump through a 3" line. Larger diameter lines, common in other countries, have been fitted with flowmeters of up to 6" in diameter. Typical grout flow rates vary between 220 and 440 gpm, depending on the pump used. Pile Dynamics therefore employs the Model 8000A with ceramic lining (flow range up to 2,440 gpm), which provides abrasion resistance to the grout. Foxboro magnetic flowmeters furnish readings of grout volume with high accuracy ($\pm 0.25\%$). The meters are nonintrusive and require virtually no maintenance, providing trouble-free operation even in year-round, daily use on construction sites.