

Application News

Magnetic Flow Meter Measures Manure For Agricultural Spraying

Industry: Agriculture

Service: Flow Rate/Total

Fluid: Fertilizer (Liquefied Manure)

Overview

Commercial livestock operations generate a significant amount of manure byproduct. The manure is sometimes sprayed in a liquefied form over agricultural fields as a fertilizer in between planting seasons.

The equipment used for spraying consists of a skid-mounted pumping system that pulls the liquefied manure from a holding pond and pumps it through a hose (drag line) to a tractor-mounted applicator. The applicator has a row of tools that create furrows in the ground into which the manure is sprayed.

Situation

Both the skid-mounted pump and tractor applicator have a requirement for flow measurement. The tractor operator monitors the flow rate at the applicator and adjusts the speed of the tractor in order to apply the right amount of manure per acre. Monitoring the volume of flow at the pump skid allows the operator to continuously check for leaks in the drag line—helping to avoid unwanted spills.

In this application, some flow meters or transmitters are too large for easy mounting on the manure pumping and spreading equipment. Cost and maintenance requirements are also important considerations in meter selection.

Solution

Flow Technology's EL Series electromagnetic flow meter proved to be ideal solution for use in the manure spreading process. The EL Series is a rugged industrial meter with no moving parts and minimal maintenance requirements. It features standard Hastelloy C electrodes and a durable PTFE liner.

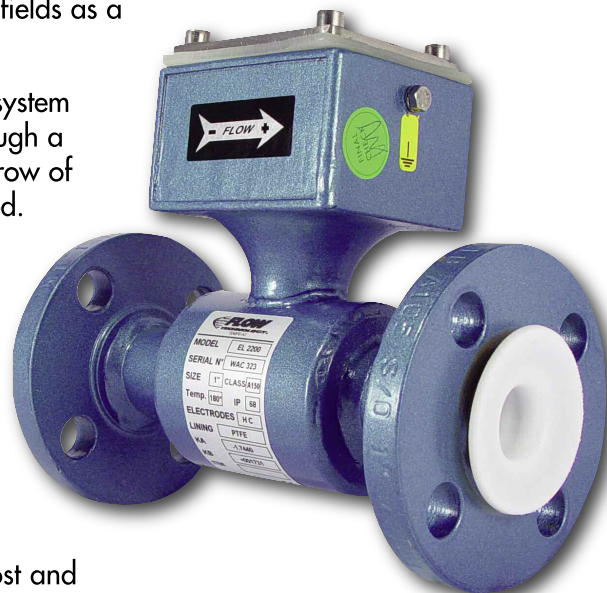
The EL Series magnetic flow meter was paired with a versatile MC308 transmitter displaying flow rate and total, as well as providing multiple digital and analog outputs.

System Description

A six-inch EL2200 Series magnetic flow meter installed on the pump skid is used in conjunction with another magnetic flow meter mounted on the tractor applicator. The mag meter is connected to a remote-mounted MC308 transmitter accepting 12 to 24 VDC inputs. Easy, secure mounting of the compact MC308 minimizes the effects of system vibration.

Technical Information

Flow Meters (Model Number): EL2200 Series
Electronics (Model Number): MC308
Flow Rate: 60-2,800 GPM
Fluid: Liquefied manure



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