

# DENSITY MEASUREMENT ON MOBILE FRACTIONATOR TRUCKS

Ronan Measurements Division supplies the process control industry with leading-edge Radiometric Measurement Systems that provide non-contact measurement solutions for the harshest environments.

## RONAN'S DENSITY RADIOMETRIC MEASUREMENT SYSTEM

### **Application**

For Frac Companies, knowing exactly how much sand, and at what density, has been put down a drill hole is critical to ensuring productivity and profitability of each job. Companies must meet client specifications for the required frac sand density to open gas zones, as well as be able to monitor poundage of sand to accurately bill clients.

### **Problem**

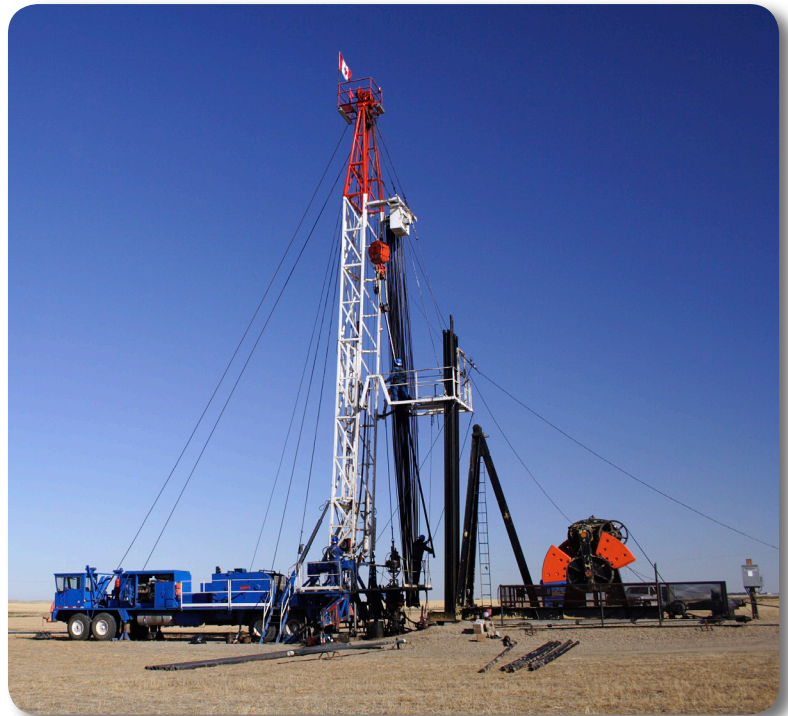
Measuring the density of slurry within a pipe on a Frac Truck presents unique challenges. A density measurement system on a Frac Truck must endure extreme vibration both while the truck is in motion on rough roads and during pumping. Because of the abrasiveness and viscosity of the slurry, direct contact methods of measuring density cannot be used.

### **Solution**

Only Ronan's **High-Vibration Ion Chamber Detector** employs a rugged concentric design with ceramic isolation insulators, enabling it to withstand the extreme vibration endured during fractioning applications. Simple structure and limited fasteners enhance durability. The detector provides accurate measurement even on narrow density ranges. The system's state-of-the-art transmitter-based electronics can be tailored for use on 12-24VDC power.

### **Summary**

Only Ronan's High Vibration Ion Chamber Detector offers the unique features that allows it to stand up to the harsh conditions of fractioning applications. Our system has been tested over and over in the field and proven to continually perform, even in the most extreme conditions. Ronan Representatives work directly with you to provide the expertise you need to ensure success – even for challenging and unique applications such as density measurement on Frac Trucks.



## RADIOMETRIC MEASUREMENT SYSTEM

### **SA-1 General Purpose Source Holder**

The SA-1 is a rugged, general purpose source holder suitable for a wide range of applications requiring an externally mounted source. The SA-1 provides shielding which meets all international standards for radiation limits.

Features:

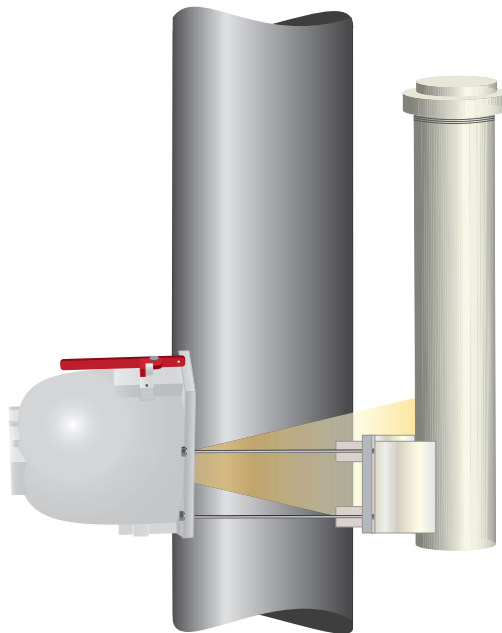
- Available in Ductile Iron cast with epoxy paint as standard; also available in PVC-coated ductile iron as options for harsh environments
- Manual Rotary Shutter with indicator



### **High Vibration Ion Chamber Detector**

First introduced in the 1970s, the ion chamber detector has been in constant use due to the reliability and robustness of the design. It can withstand intense vibration, while delivering accurate and repeatable measurements even on narrow density ranges. The high-vibration ion chamber is recommended for use in applications where operating vibrations are at or above 120Hz.

- Rugged concentric design
- Simple design with limited fasteners enhances durability
- Ceramic Isolation Insulators
- Ronan Quality Manufacturing



*Ronan Density Radiometric Measurement System with SA1 Source Holder and High Vibration Ion Chamber Detector*

