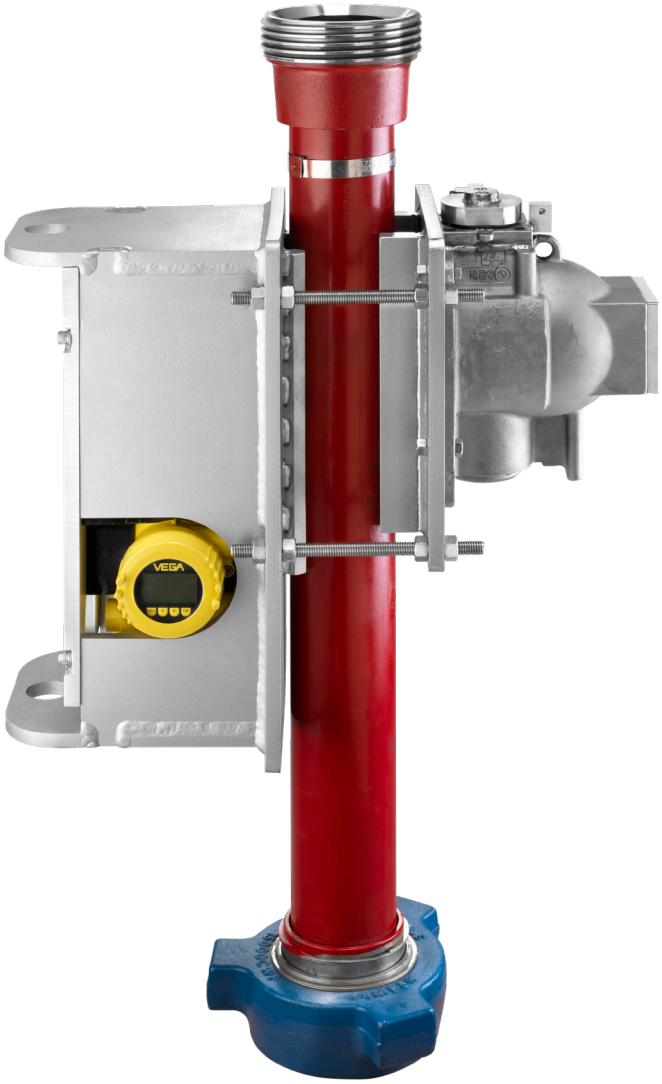
# MiniTrac 32

## Density Detector for Oil and Gas Applications

**Radiometric measurement is non-contact and unaffected by process pressure, temperature, or corrosive properties. In turn, VEGA's MiniTrac 32 can accurately measure slurry densities at well sites to ensure correct solids content in each stage of the process.**



### Key Benefits

- Double-encapsulated electronics and a ruggedized scintillator make the system highly resistant to vibration and shock
- NaI scintillation crystal is very sensitive, minimizing the required source size
- Integrated electronics eliminate the need for remote evaluation or processing
- Unique bracketing design optimizes measurement quality*
- Repeatability to 0.5% of span
- Robust bracket design lengthens service life*
- Backed by superior service and responsiveness

**Benefits vary depending on chosen configuration*

### Principle of Operation

**Source Output**

A source holder and detector are mounted on opposite sides of the pipe. A cesium-137 isotope is used as the source of gamma radiation that is passed as a collimated beam through the pipe and material toward the detector.

**Detector Inference**

As the fluid density increases, it absorbs more radiation. The more radiation the detector receives, the lower the process density and vice versa. The detector accurately correlates measured radiation to density and generates a proportional output.

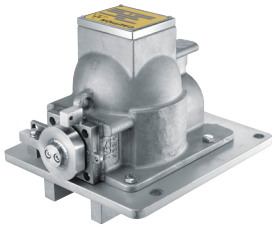
# Component Overview

## MiniTrac 32

**Radiometric sensor for density measurement**

- Integral display and adjustment interface (optional)
- Relay input for “auto zero”

| | |
|---|---|
| Output: | 4 … 20 mA/HART |
| Ambient Temperature: | -40 … +140°F (-40 … +60°C) |
| Enclosure Rating: | NEMA 4X, IP 66/67 |
| Standard Approvals: | ATEX, CSA, FM, IEC |
| Power: | 20 … 72V DC, 20 … 253V AC |



## SHLD

**Lightweight, cast stainless steel source holder**

- 316 stainless steel housing
- Lead shielding material
- Lockable rotary shutter

| | |
|---|---|
| Maximum Source Activity: | Cs-137: 100 mCi (185 GBq) |
| Fire Resistance: | 1,000°F (538°C) for 5 minutes |
| Collimation Angle: | 10° |

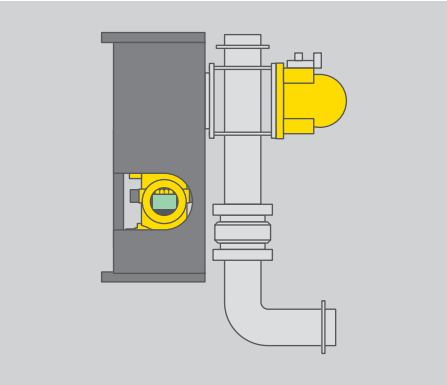
## PTB8 Bracket

**Heavy duty bracket system**

- Patented (pending) shock and vibration isolation system (optional)
- 304 stainless steel construction
- Truck-mounted version available

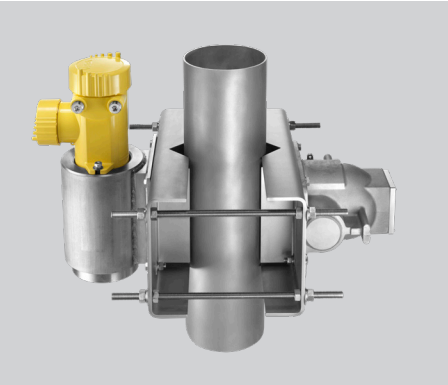
# Hydraulic Fracturing Applications

**MiniTrac 32 hydraulic fracturing systems are designed to provide reliable measurements to optimize monitoring and control of proppant concentrations. Available systems are designed for the unique requirements of both high and low pressure measurement applications.**



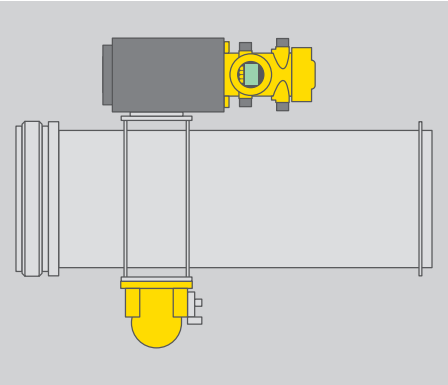
## High Pressure Measurement at the Well Head

Radiometric technology is ideal for measuring density in high-pressure lines temporarily installed near well heads. Well fracturing companies need rugged and reliable density measurements to provide documentation of proper stage completion. VEGA's MiniTrac 32 detector accurately tracks density while avoiding contact with the abrasive slurry.



## Low Pressure Measurement at the Blending Truck

Well fracturing companies require a second density measurement at the point where sand is mixed with fluid. This enhances control over the process and provides redundancy. The truck-mounted version utilizes a universal bracket system to permit installation on a variety of pipe sizes. It features a detector background radiation shield to minimize errors associated with reflected radiation. These errors are caused by changes in other vehicle proximity from job-to-job.



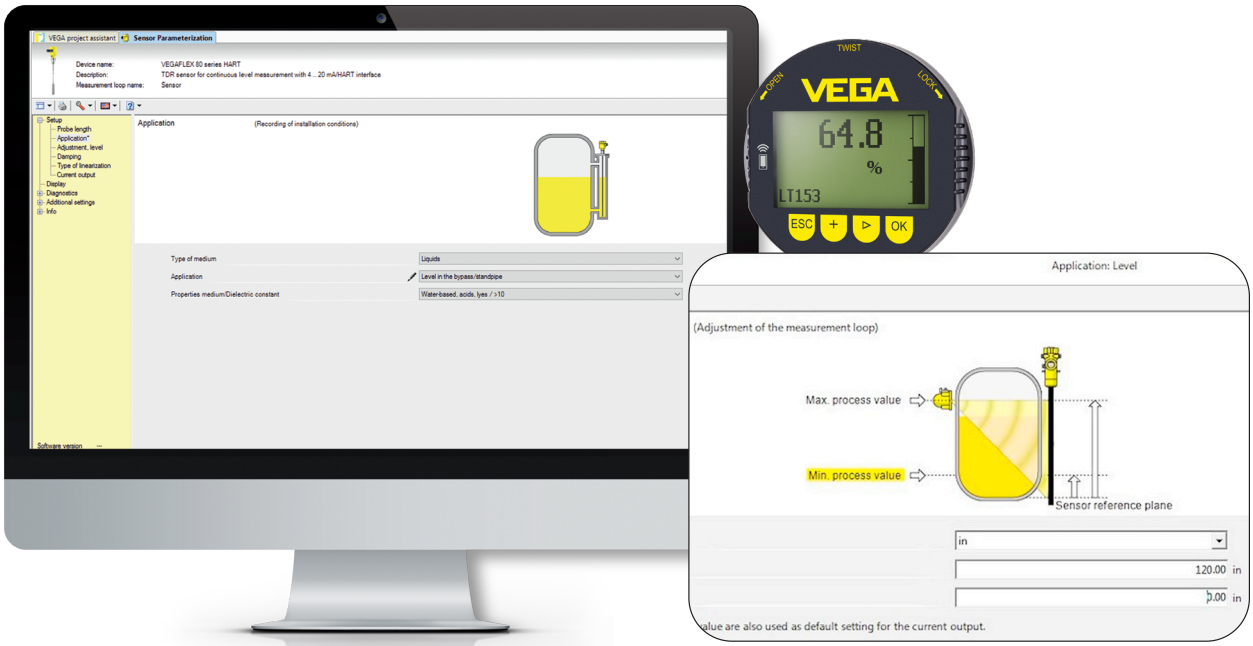
## Monoline

Many hydraulic fracturing operations are adopting Monoline fluid delivery technology at the well head for a cleaner and safer alternative to traditional frac irons. VEGA's MiniTrac 32 is fully compatible with this newer technology, providing reliable density measurements of the high-pressure slurry injections.

### Application Benefits

- Requires significantly less radiation
- Provides superior repeatability
- Rugged design lasts longer and requires less frequent adjustment

# Setup and Adjustment




## Guided Setup

Configuring the detector properly is perhaps the most important step in commissioning a new device. Technicians must understand the parameter settings and their effect on the instrument's output. VEGA recognizes that this is important to running a profitable operation and to having a safe work environment.

Radiometric measurements infer process conditions, so accuracy is at a premium. VEGA provides guided setup in our DTM adjustment tool, and ProTrac's guided setup wizard assures accurate results for various measurements. Additionally, setup may be accomplished using a local PLICSCOM interface or a remotely HART EDD.

On-screen information makes it easy to understand the purpose of each step. Thanks to the guided setup, users can count on safe and reliable measurement.

## Instrument Indication and Adjustment

- PLICSCOM offers local measured value indication and adjustment
- All sensor data may be saved on the PLICSCOM and copied into a new sensor
- Sensors are easily configurable and important adjustments are done quickly with DTMs
- EDD descriptions are available for all plics devices

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