

The future has arrived. A multi-variable sensor that fits practically anywhere around the drilling rig, plant and process, SRD is a patented technology achieving complete isolation of the internal measurement elements – impervious to fluid conditions such as turbulent flow, aeration, pressure and non-homogeneity (solids content) that typically aggravate or even render current popular technologies unreliable at best, useless at worst.



A strong addition to our comprehensive line of density measurement solutions, SRD bridges through process location difficulties and addresses the limitations of DP and tuning fork sensors, while maintaining cost-competitiveness against popular options (e.g., Coriolis) that in many cases are inappropriate overkill choices.

The operating pressure that SRD can be specified to (5,000 psi) is unmatched.



### Specifications

#### Model

SRD (various customization options)<sup>1</sup>

#### Applications

Density, Viscosity and Temperature of fluids – drilling mud, production fluid, refinery fuel families, beverages, dairy, slurries

#### Implementation

Torsional resonator element – mechanical damping measurement associated with changes in viscosity, resonance frequency shifts associated with changes in density

Temperature measurement via Pt1000 (DIN EN60751 class B)

#### Measurement Range (Standard | Maximum)

Density: 3.3 to 21 ppg (0.4 to 2.5 g/cc) | 4 ppg (33.3 g/cc)

Viscosity: 1 to 10,000 cP | 50,000 cP

Temperature: -40 to 125°C (-40 to 257°F) | 200°C (392°F)

#### Accuracy (Standard | Available)

Density: 0.008 ppg (0.001 g/cc) | ≥ 0.008 ppg (0.001 g/cc)

Viscosity: 5% of reading | ≥ 1% of reading

Temperature: 1°F (0.5°C)

#### Output Parameters and Signals

3x 4-20 mA for Density, Viscosity, Temperature

Modbus RTU (RS-485), USB, Ethernet, Bluetooth LE 4.0

Density+SiCon<sup>2</sup>: Retort / Mud Rpt (>15 Params)

via WITS TCP, Serial RS232

#### Pressure Rating (Standard | Maximum)

200 psi (13.7 bar) | 0 to 5,000 psi (344 bar)

#### Operating Temperature

Sensor - Process: -40 to 200°C (-40 to 392°F)

Transmitter - Ambient: -40 to 150°C (32 to 302°F)

#### Power Requirement

24 VDC 3W

#### Dimensions

Sensor Probe (w/ Protector): 4"D x 6"L (10 x 16 cm)

Transmitter: 5" x 5" x 5" (13 x 13 x 13 cm)

#### Weight<sup>3</sup>

NPT or Flanged: < 20 lbs (9 kg)

Insertion probe (8-ft): < 40 lbs (18 kg)

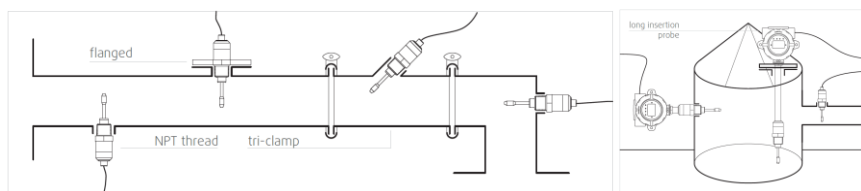
#### Approvals / Certification

ATEX: II 1 G Ex ia IIB T4,T4/T3 Ga X (Zone 0,1,2)

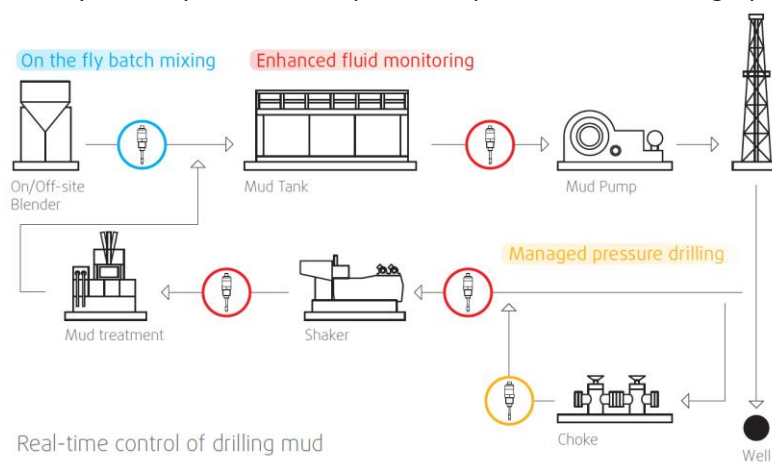
IECEx: II 1 GD Ex ia IIB Ga,Gc (Zone 0,1,2)

### Features

- Repeatable measurements in both Newtonian and non-Newtonian, single- and multi-phase fluids
- Mounting configuration flexibility → lowest worksite modification and installation costs



- Gateway to comprehensive impactful improvement to drilling ops



- Unaffected by process fluid turbulence and worksite mechanical vibrational conditions – transducer is isolated from process fluid by hermetically sealed capsule while maintaining excellent mechanical isolation from sensor's mounting

**NOTES:** **1** – Several specification parameters are customizable including density and viscosity ranges and precision requirements, pressure and temperature limits, data output signals and communications, process connections and transmitter electronics form factors **2** – SiCon is a simultaneous concentration sensor system measuring %Oil, %Water and %Solids; if combined with a density sensor, multiple output parameters related to retort and mud reports are produced in real time **3** – Overall system weight for all applications can be handled by 1 person