

Field Showcase

Chemical Strength Monitoring in Factory Production



Client: Brockley Group
Location: Dublin, Ireland
Application: AdBlue Production
Solution: DensiCheckTx

In 2015, Brockley opened an innovative and eco-friendly new manufacturing facility called CleanTech. One of their key brands is AdBlue, a urea based liquid used worldwide to reduce environmentally damaging nitrogen oxide emissions from large diesel engine.

This investment has almost doubled manufacturing capacity, and Brockley have invested in streamlining their processes to cope.

Brockley selected the DensiCheckTx to monitor and control the urea concentration for production. To help in the bottling process they also measure liquid density. The reason that the DensiCheckTx was the standout option was the ability to measure two calibration ranges simultaneously: AdBlue strength %w/w and density (kg/m^3).



BROCKLEY
GROUP

Client Profile:

Brockley group are an Irish based chemicals manufacturer. They make and distribute some of the world's most common chemical brands including AdBlue and CatBlue.

Brockley Group & Rotothem Group

Brockley have worked with the Rotothem Group for a number of years, dealing with our Dublin based regional office, Bentley Instruments, where we have a notable reputation in the pharmaceutical industry.



Heavy Goods Vehicles are obliged to use AdBlue to reduce engine emissions

One instrument, two functions...

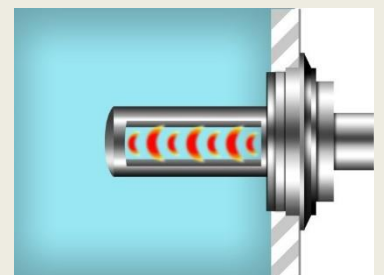
- ▶ The two calibration ranges are selected in the DensiSetup software. (E.g. Cal1 = Adblue strength, Cal2 = Liquid density)
- ▶ A switch is linked to the DensiCheckTx digital input channel, which initiates the change of calibration data
- ▶ Or via serial communication, both data sets can be displayed simultaneously

Product Overview:

DensiCheckTx is an innovative solution for measuring in-line concentration, of two separate solutions with the one instrument. This makes the DensiCheckTx an economic sensing solution for such cases where several media are passed through on line.

Key Features & Benefits:

- ▶ Non-invasive and invasive
- ▶ High accuracy and repeatability
- ▶ ATEX Hazardous area approval
- ▶ No moving parts
- ▶ High reliability
- ▶ Low ownership costs
- ▶ Increased process efficiency
- ▶ Improved quality monitoring
- ▶ Rapid payback of investment



DensiCheck TX – General Specification

Enclosure :	Die-cast aluminium, blue epoxy painted, IP65
Accuracy:	Typically +/- 0.1% (product dependant)
Repeatability:	+/- 0.01 m/s, +/- 0.02°C
Response Time:	< 1 second
Update:	Every 2 seconds
Stability:	No drift
Calibrations:	Two
Power Supply Requirement:	24Vdc, 250mA
Outputs:	0..5V or 4..20mA (Active, non-isolated) Two digital for hi/lo alarm open collector
Input:	Digital input for no-flow indication or product selection
Enclosure/Electronics Approval:	⊕ II 2G Ex d IIB T5 Gb (- 20°C ≤ Ta ≤ 60°C) Cert No(s). Baseefa13ATEX0047
Serial Communications:	RS485, Modbus RTU / ASCII CCOM2

Ultrasonic Transducer

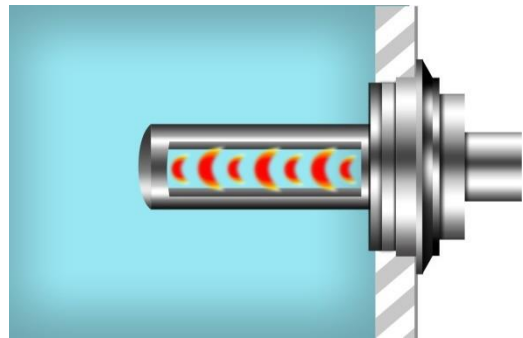
Approval: ⊕ II 2G Ex mb IIC T5 Gb (- 20°C ≤ Ta ≤ 60°C)
Cert No(s). Baseefa03ATEX0087X

Temperature Ratings -20°C to +60°C, -4°F to 140°F
Local Electronics:

Remote Electronics: -10°C to +110°C (continuous) (14°F to 230°F)
150°C (5 min intermittently) (320°F)

Standard Process Connections:

- ▶ Non-invasive strap-on / min. dia 50mm (2")
- ▶ Varivent – probe depth 63 mm
- ▶ Tri-clamp – probe depth 81mm
- ▶ Flanged – probe depth 133mm
- ▶ DIN 50 – probe depth 63mm



DensiCheckTX installed with Varivent connection

Product Identification Code

