

Field Showcase

In-Line Measurement, Spirit Alcohol Concentration

Client: Diageo
Location: Glen Ord Distillery
Application: Still Lines, Spirit Alcohol Concentration
Solution: DensiCheckTx

Rototherm Canongate Technology takes pride in being the supplier of choice for a large number of Diageo sites worldwide.

The DensiCheckTX ultrasonic liquid concentration meter was first developed for measuring alcohol content in solution. The technology is mature and proven in industry.

In alignment with industrial trends of exploiting automation technologies, and Diageo's multi-billion GBP investment across Europe, Canongate Technology's installation base of DensiCheckTXs has grown enormously in recent years.

Glen Ord is one example where they are used to measure alcohol in distillate at both the early wash-run and the final spirit run. The DensiCheckTX's measurement is used to turn the pot still runs on and off, and to switch the flow of distillate between low wines and spirit receiver, based on intervals outlined in Glen Ord's specification.



Glen Ord Distillery, Operated by Diageo

DIAGEO

Client Profile:

Diageo is one of the world's largest drink producing companies. Other Diageo brands include Smirnoff, Guinness, Johnny Walker and countless others. With annual revenues more than US\$10bn and 35,000 employees, Diageo is a true global giant in the alcoholic drinks industry.

Diageo & Rototherm Canongate Technology:

Rototherm Canongate Technology is Diageo's choice supplier of alcohol strengthometers. With a relationship spanning well over 20 years, Diageo is our biggest European client. We have worked closely over recent years as part of their massive European expansion investment.



Pot stills in Still House 2



DensiCheckTXs in operation

Commissioning Engineer, Bart says:



Our long lasting relationship with Diageo means we at Canongate feel part of the team. This is key for installations of this size, where their helpful co-operation on site helps in getting the system operational, and helps them reap the benefits of automated alcohol measurement!.

Painting by numbers...

- ▶ Glen Ord runs two still houses simultaneously, with a total of 14 stills (7 wash, 7 spirit)
- ▶ Investment at Glen Ord to increase output to 5ml/a, enough for everybody in the UK to have a generous after dinner drop!
- ▶ Full DensiCheckTx systems to be installed at 2 additional Diageo sites in Q1 & Q2 2015.

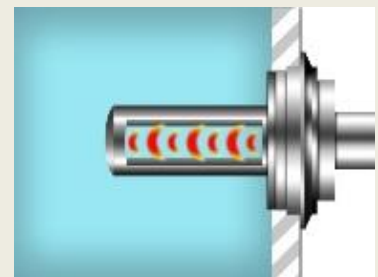
In 2012, Diageo executives took the decision to invest \$1bn in their Scotch whisky production across Scotland. The reliable and versatile nature of the DensiCheck Tx technology means it has become part of the standard automation equipment requirement for all newly commissioned brewing and distillate lines, and is also used in some packaging facilities, to monitor the abv that ultimately appears on the label.

Product Overview: DensiCheckTx

DensiCheck TX is an innovative solution for measuring in-line concentration, ideally suited to spirit alcohol concentration. Its simple design with locally mounted processor makes an ideal complement for other in-line sensors.

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 – General Specification

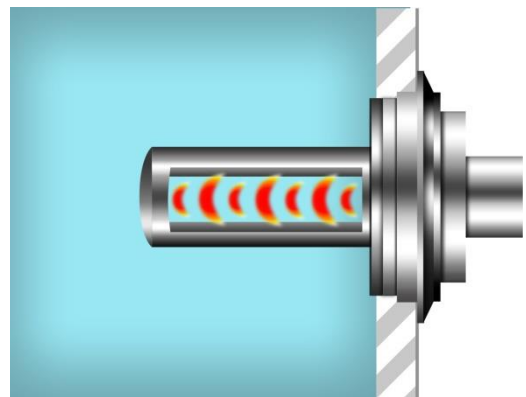
Rating:	IP65
Accuracy:	Typically +/- 0.1% (product dependant)
Repeatability:	+/- 0.01 m/s, +/- 0.02°C
Response Time:	< 1 second
Update:	Every 2 seconds
Stability:	No drift
Calibrations:	Two
Supply:	24Vdc, 250mA
Output:	0..5V or 4..20mA (Active) Maximum – Loop resistance 500 Ω Non-isolated Two digital for hi/lo alarm open collector
Input:	One digital for flow indication
Electronics Approval:	⊕ II 2G EExd II B T5 (-20°C ≤ Ta ≤ 60°C) DEMC: 03 ATEX 135596X
Serial Communications:	RS485, Modbus RTU / ASCII CCOM2

Ultrasonic Transducer

Rating:	⊕ II 2G Exmb II CT5 GB (-20°C ≤ Ta ≤ 60°C)
Temperature:	-10 to +110°C (continuous) (14°C to 230°F) 150°C (5 min intermittently) (320°F)

Process Connections:

- ▼ Non-invasive strap-on / Min. dia 50mm (2")
- ▼ Varivent – Probe depth 63 mm
- ▼ Tri-clamp (2 1/2") – probe depth 81mm
- ▼ Flanged (2 1/2") – Probe depth 133mm
- ▼ DIN 50 – Probe depth 63mm



Product Identification Code

