

Protecnica
Solutions

Instrumentation for Consistently Good Beer & Cider Production





Protecnica Solutions Ltd
Beverage Process Technology

Protecnica Solutions Ltd are UK distributors for CENTEC GmbH process sensors and ABER Instruments. We are also the Technical & Sales Representatives for CENTEC GmbH systems.



ABER Instruments Ltd are the market leader in their specialist field. Based in Aberystwyth, ABER design and manufacture innovative instruments to measure the concentration of live yeast cells in solution for both yeast process control and laboratory analysis.
Many of the world's major breweries use ABER

*Watch
Youtube
Video*



CENTEC GmbH specialise in the design and manufacture of product sensors and skid mounted systems. Beer, Cider and Beverage production are key global markets. From their head office near Frankfurt, Germany, sensors are manufactured. CENTEC produce their process skids in the Czech Republic and USA.

Watch Youtube video at:
www.protecnica.co.uk/video_learning.html



Process Sensors

by ABER Instruments Ltd and Centec GmbH

- Live Yeast Cell Concentration
- Oxygen in Water, DAL, Wort, Beer, Cider
- Oxygen in Waste CO₂ Gas
- Wort Concentration
- Alcohol Content of Beer & Cider
- Liquid Density / Specific Gravity
- Dissolved CO₂ in Carbonated Drinks

Lab. Analysers & Portable Instruments

by ABER Instruments Ltd and Centec GmbH

- Bench-top Live Yeast Analysers
- Portable Oxygen Meter & Datalogger

Please ask for our brewery systems brochure

Skid Mounted Process Systems

by Centec GmbH

- Wort Cooling & Wort Aeration
- Precision Yeast Pitching
- Minor Additions Dosing
- Water Treatment & Purification
- Water Deaeration 'DAL Plants'
- Dealcoholisation Plants
- Multi-Stream Blending
- High Gravity Beer Blending
- In-Line Carbonation of Beer and Cider
- In-Line Nitrogenation of Beer
- Flash Pasteurisation
- Cleaning in Place 'CIP'
- 'Direct to Filler' Technology
- Process Software & Automation

COMPACT 410
Live Cell Counters
by ABER Instruments Ltd

ABER Instruments use a radio frequency field to constantly monitor yeast suspensions. Small changes in capacitance vary in direct proportion to the concentration of live yeast cells. Only live cells are detected, dead cells and other solids are ignored.



COMPACT
*New Robust In-Line
Yeast Monitor*



ADAPT
*In-Line
Yeast Monitor*

Brewery applications include:

- Accurate Yeast Pitching
- Fermentation Monitoring
- Improved Yeast Cropping
- Reliable Yeast Propagation
- Dosing for Conditioning

Combine the installation with a flow meter to dose in just the right number of viable cells.

Operating Range: Approx. 0.5 to 70% live spun solids or 20×10^6 to 5×10^9 live cells/ml for typical 6 μ m cells

Output: Local HMI, 4-20mA signal and Profibus as option



V350
*Touch screen
display, HMI
& transmitter*

*"Consistent brews
every-time, superb
fermentation control"*



Watch Youtube Video

*Used by AB InBev,
SAB Miller, Heineken,
Diageo, Molson Coors
and many others*

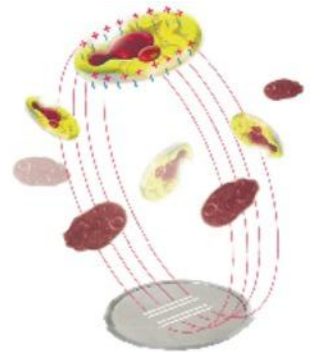


COMPACT LYA
Lab Yeast Analysers
by ABER Instruments Ltd

ABER Compact Lab Yeast Analysers use the same well established principle as the Compact In-Line Yeast Monitors. A quick and accurate capacitance measurement reveals the presence of live yeast cells in the 40 ml sample. The viable cell concentration is calculated in direct proportion to the capacitance value and displayed on the instrument's screen.



Watch Youtube Video



Working Range: as Compact In-Line
Sample volume: 40 ml

When calibrated,
CLYA's memory
can store the
characteristics of
20 different yeast
strains



CLYA Yeast Analyser
Rapid Bench-Top Units

*"Easy to use, quick
and accurate results
every time"*

OXYTRANS TR

In-Line Oxygen Sensors

by Centec GmbH

Using the latest in-line optical window technology, Centec oxygen sensors accurately and reliably measure oxygen levels in many liquids and gases.

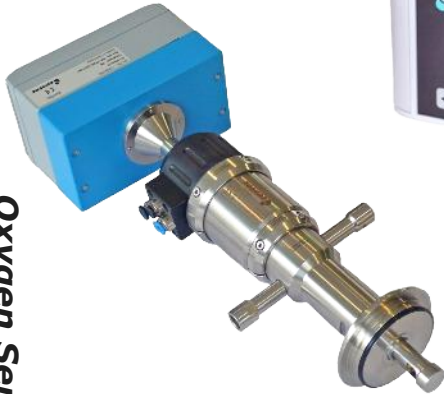
OXYTRANS measures O₂ levels in:

- **Wort** - To optimise yeast activity
 - **DAL** - To check deaerator performance
 - **Beers & Ciders** - To maximise quality
 - Recovered **CO₂** - To reduce waste
-
- Accurate measurement from ppb to ppm
 - Operates reliably over a wide temperature range
 - Temperature compensation for accurate results
 - Standalone operation - *easy just connect 24 V DC!*
 - Robust IP65 unit with local LCD display.
 - Standard analogue and digital I/O connections
 - Programmable for more than 100 recipes, each with selectable alarm points for manual use or automation
 - Option internal Profibus DP card
 - Suitable for most standard CIP and SIP regimes
 - Retractable version with CIP facility, for automated pneumatic or manual operation. Enables quick removal.



Oxytrans TR
In-Line

Oxygen Sensors



Oxytrans TR-W
In-Line & Retractable



OXYTRANS M
Portable Oxygen Meters
by Centec GmbH



Robust and accurate, hand-held portable instruments for measuring oxygen levels in a variety of applications around the brewery

A very useful tool for quickly checking:

- Other O₂ monitoring instruments
 - Process components, systems and pipes
 - O₂ levels in Beer, Beverages and DAL
 - Site utilities e.g. boiler feed water
-
- Rapid response & highly accurate
 - A choice of operating ranges
 - Operates across a wide temperature range
 - Fully Portable, just 1.7 kg
 - Includes large rechargeable battery, international charger (incl. UK plug), leads, robust carry case and PC software.
 - IP65 USB port for 'Centec Viewer' PC Software
 - Use for Manual 'single reading' operation or for unsupervised automatic data logging
 - Select datalog intervals from seconds to several minutes
 - Large datalog storage capacity
 - Robust IP65 construction

An ideal fault finding tool for any brewery



Oxytrans M
*Portable O₂ Meter
& Datalogger*

SONATEC TR
"The Plato Monitor"
In-Line Ultrasonic Analysers
by Centec GmbH

The speed of sound is a defining physical characteristic. Centec sensors use ultrasound to determine the concentration of various liquids, including the sugar content of wort.

Brewery applications for Sonatec include:

- Wort Evaporation monitoring & control
- Fluid interface detection

Differentiating between yeast slurry and beer or cider before filtration

- Easy In-Line installation on a Varivent union
- Standalone operation, just connect 24V DC supply
- Hygienic, CIP cleanable design
- Highly precise over a wide measuring range.
- Temperature compensation for accurate results
- Operates reliably over a wide temperature range
- Pressures to suit virtually any brewery duty
- Displays: m/s, Mass%, Volume% or °Brix
- Compact IP65 unit with local LCD display
- Include numerous digital & analogue I/O terminals
- Profibus DP and ATEX options
- Programmable for more than 100 products, each with various selectable alarm/output points

A robust and reliable process instrument



Ultrasonic Sensors

Sonatec TR
In-Line Sensors



SONATEC TR-HW
Ultrasonic Vessel Monitors
by Centec GmbH



Tank mounted ultrasonic sensors to monitor process activity inside a closed vessel, by accurately measuring changes in sound velocity through the fluid. The speed of sound typically increases in direct relationship to an increase in solution concentration.

Applications include:

- Evaporator monitoring & control
- Product level & stratification detection

Most features as Sonatec TR, plus

- Probes custom made up to 2.5 metres long for top entry vessels
- Optional targeted CIP nozzle for products which tend to coat on surfaces
- Optional sampling point for calibration checking and laboratory analysis.
- Available in a range of different alloys

N.B.: Liquids should be free of bubbles



Sonatec HW
with sample point &
CIP nozzle

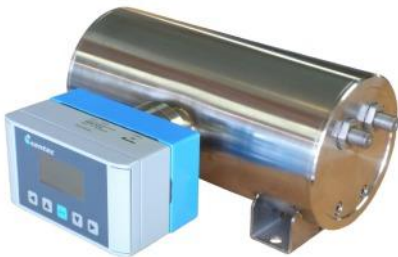


Centec Rhotec sensors use a high frequency oscillating U tube to accurately and continuously measure the density of numerous liquids. They are so accurate that the German authorities have certified Rhotec for measuring alcohol content, against which tax is levied.

Brewery applications include:

- Blender process control
 - Accurate Wort & Extract monitoring
 - Process & Fermentation Monitoring
 - Continuous Inspection & Warning
-
- Extremely accurate over a wide density range
 - Robust IP65 construction with local LCD display
 - Displays: Density, w/w%, v/v%, °Brix
 - Includes a selection of analogue and digital I/O
 - Profibus DP and ATEX options
 - Programmable for more than 100 products, each with selectable alarm/digital output points
 - Uses a standard 24V DC supply
 - Various installation options

Precision Density Sensors



Optional
In-line Installation Kit



COMBITEC "The Beer Monitor"
Density+Sound Analysis Combined
by Centec GmbH



Combitec are dual function instruments to efficiently monitor three component liquids e.g. fermented beer which contains water, sugar and alcohol.



These cost effective sensors provide valuable product data, displaying it locally as a standalone instrument. Also analogue and digital I/O connections can be used for remote display and fully automated process control.

Applications include:

- Extract/Sugar Monitoring
- Alcohol ABV determination
- OG determination
- Fermentation monitoring
- Final Product inspection
- Blending control, checks ABV and Sugar levels

N.B. Combitec is installed on DN40-150 Varivent unions. The special sensor head generates sufficient ΔP to operate the instrument under most normal brewery flow conditions

Spec. generally as Rhotec and Sonatec:

- Provides and analysis density over a wide range
- Measure sound velocity at >2500 m/s (approx. 80°Brix)
- Operates reliably over a wide temperature range
- Extensive analogue and no-volt/digital I/O connections
- Internal Profibus DP card option
- Uses 24V DC, IP65. Robust & reliable
- USB interface for 'Centec Viewer' PC software



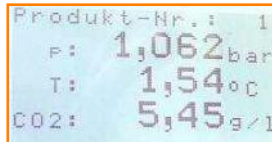
BEER MONITOR for
Inline Installation

Carbotec uses controlled decompression, with precise temperature and pressure measurement for the in-line monitoring of dissolved CO₂ in carbonated drinks.

Brewery applications include:

- Monitoring of CO₂ carbonation
- Control of carbonation systems

- Accurately measures light to highly carbonated drinks
- Temp. Range to suit any normal requirement.
- CIP cleanable
- Max. Pressure: 10 bar g.
- Response time: </= 20 seconds
- Suitable for DN65 to DN150 Varivent pipe unions
- Standalone unit with LCD display and various I/O connections both analogue and digital (no-volt)
- Programmable for more than 100 products, each with selectable alarm/output points
- Profibus DP option
- 24V DC, IP65. Robust & reliable
- Leak detection alarm feature



'TR' TRANSMITTERS

"The brains in the family"
by Centec GmbH



TR Transmitters uniquely enable Centec sensors to operate as 'stand-alone' devices or as part of a process control system. Data obtained from the sensor head is processed inside the robust IP65 transmitter for direct display on the instrument's LCD screen, on a local display and remotely as required.

Features & benefits of TR Transmitters:

- Cost effective 'stand-alone' units with LCD display and keypad. Only a 24V DC 2A supply is required
- Easily connects to most process automation and SCADA systems
- I/O include several 4-20 mA connections and digital no-volt contacts.
- Profibus DP is an option
- Program specific settings, constants and alarm points are selectable for more than 100 different products
- Calculates and displays a wide range of values incl. °Plato, °Brix, ABV, SG, ppb, ppm, and more to suit customer preferences
- Internal USB port and 'Centec Viewer' PC software for easy set-up and inspection
- Robust epoxy powder coated IP65 construction
- External display option
- All Stainless steel and ATEX options



TR Transmitter
External display option

- Centec 'MCM Systems' provide full HMI and process automation functions for complex applications...
please ask for details.



Centec GmbH not only make sensors, they also use their automation expertise and brewing knowledge to design and build a range of pre-assembled process skids especially for breweries. Centec systems are used worldwide by most major brewers to produce many fabulous beers and ciders.

Centec Process Skids include:

- Water filtration, RO, softening & deionisation
- DAL Plants - Water Deaeration
- High Gravity Blending
- Blender-Carbonation Units
- Continuous Multi-Stream Blending
- Minor Additions Dosing
- CO₂ Carbonation Systems
- N₂ Nitrogenation of ales and stouts
- De-alcoholisation with aroma recovery
- Flash Pasteurisation
- 'Direct to Filler' Systems
- CIP Systems

Over many years, the Centec team of experienced automation & software engineers have skilfully produced thousands of systems for hundreds of customers



CarboBlender

Continuous In-Line HG Beer/DAL Blending & Carbonation

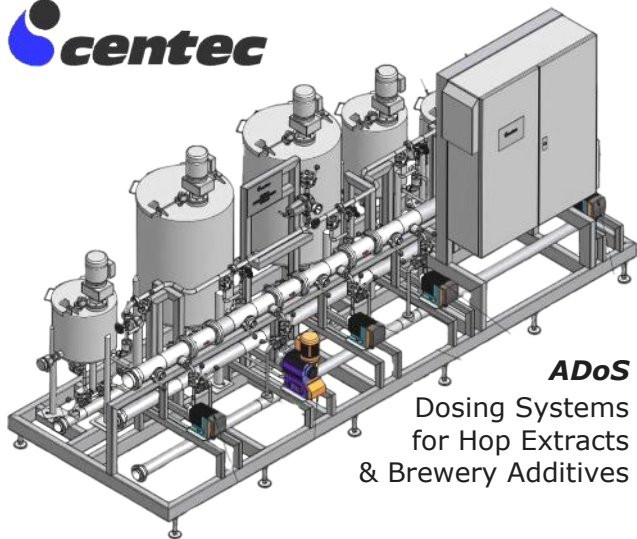




Fully automated
'Direct to Filler'
systems



DGS - 'DAL Plants'
Water Deaeration



ADoS
Dosing Systems
for Hop Extracts
& Brewery Additives

Centec = Sensors + Automation + Skids

'A Unique Synthesis'



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