

# YSI 2900

## Biochemistry Analyzer



Speed and Accuracy Made Simple

## Fast *and* Accurate: The YSI Gold Standard

YSI has earned a reputation as the Gold Standard in bio-analytical instruments with highly accurate sensors and rapid results.

The key to generating analyte-specific results in 60 seconds or less is YSI's innovative biosensor technology. Using the inherent specificity of enzymes for a single target analyte, YSI's proprietary immobilized enzyme electrodes allow a rapid, accurate and largely interference free measurement to be made in about a minute. The unique fluidics and chamber design resist clogging – even at high cell densities.

Combining trusted measurement technology with the latest in automated sample handling, the YSI 2900 furthers YSI's legacy of expertise in the following applications:

- Critical bioprocess monitoring
- Biofuel production and research
- Clinical blood chemistry
- Food and beverage processing

The YSI 2900 features an intuitive graphical user interface and a touch screen display, making 2900 series analyzers the easiest to use and most cost effective way to measure the following chemistries in a wide range of matrices:

|           |            |           |                   |
|-----------|------------|-----------|-------------------|
| Glucose   | Ammonium*  | Methanol  | Choline           |
| Lactate   | Potassium* | Sucrose   | Glycerol          |
| Glutamine | Xylose     | Galactose | Hydrogen peroxide |
| Glutamate | Ethanol    | Lactose   |                   |

\* YSI 2950

# YSI 2900

## Biochemistry Analyzer



YSI's quality management system is registered:  
ISO 9001: 2008 and ISO 14001: 2004.

### **Versatile**

Measure >10 chemistries—each in under 1 minute

### **Analyte-specific results**

Even in complex matrices

### **Modular**

Expandable from 2 to 6 chemistries with the YSI 2950

### **Anti-clogging fluidics and chamber design**

Measure high cell density samples with ease

## Ease of Use

| Features                                    | Benefits                                                                                 |
|---------------------------------------------|------------------------------------------------------------------------------------------|
| Icon-driven user interface with touchscreen | Easy to learn                                                                            |
| Data download options                       | Save data on a memory stick, send it over the network or access it in a database anytime |
| Onboard training videos                     | Minimizes operator learning curve                                                        |
| Foreign language capability                 | Programmable in English, Chinese, French, Spanish, Portuguese, German, Korean, Italian   |

## Technical Innovations

| Features                                                                | Benefits                                                                           |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Proprietary Enzyme Electrode                                            | Fast, accurate and analyte-specific results                                        |
| Short, wide aspiration path with proprietary chamber measurement system | Highly resistant to clogging, handles the highest cell counts without pretreatment |
| Uses biological separation technology                                   | No hazardous chromatography solvents to dispose of                                 |
| Automate with multiple types of sample vials                            | Flexibility to suit current sampling protocols                                     |
| Ergonomic modular profile                                               | Multiple units use much less bench space                                           |

## Flexibility

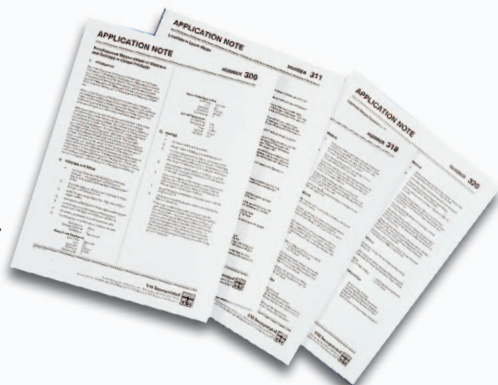
| Features                                                                            | Benefits                                                                            |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Slim modular design                                                                 | Easily expand analytes or chemistries, and multiple units use much less bench space |
| Connect with OPC, ethernet, USB, RS232 to computer or other instruments and systems | Ease and flexibility of connection                                                  |
| CE, GLP, 21 CFR 11, RoHS compliant                                                  | Trusted and safe technology                                                         |
| Results automatically saved in searchable database                                  | Multiple convenient methods for data retrieval                                      |

## Flexible Automation



## Applications

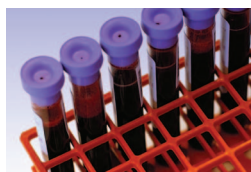
Over 30 application notes are available online for download.



### BioProcessing Applications

Such as, bioreactor glucose and lactate. YSI analyzers are an essential part of many stages of bioprocessing, including: R&D, bioreactor optimization, scale-up and production. Our analyzers help companies manufacture vaccines, small molecules and a variety of chemicals.

| Application               | Sample Preparation | Sample Information | Typical Results                                                                     | Analysis Time |
|---------------------------|--------------------|--------------------|-------------------------------------------------------------------------------------|---------------|
| <b>Bioreactor glucose</b> | None               | 13 µl sample size  | CV < 2% at cal pt.<br>Agreement with HPLC:<br>$y = 0.903x - 0.087$<br>$R^2 = 0.996$ | < 1 min.      |



### Clinical Applications

For example, whole blood glucose in diabetes management and research. The 2900 uses the same core technology as YSI's gold standard glucose instrument, the 2300 STAT<sup>TM</sup>, recognized as the industry standard for this measurement.

| Application                      | Sample Preparation | Sample Information                                                | Typical Results                                                                                                                 | Typical Analysis Time |
|----------------------------------|--------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| <b>Whole blood/serum glucose</b> | None               | 25 µl<br>Up to<br>900 mg/dL<br>(9000 mg/L,<br>50.0 mM)<br>glucose | Whole blood<br>CV < 2% at 75 mg/dL<br>NIST Serum Controls 965A<br>CV range of 0.5% - 1.1%<br>for concentrations<br>34-292 mg/dL | < 1 min.              |

Additional chemistries are available in all of the above application areas in a wide range of sample matrices requiring minimal pretreatment, including: a variety of sugars, amino acids, alcohols and other chemicals in



### Food and Beverage Applications

For example, lactate and ethanol in tomato products. YSI analyzers measure lactate and ethanol as an indicator of spoilage in ketchup, salsa and other tomato products. The same technique can be used for fruit processing.

| Application                       | Sample Preparation                    | Sample Information | Typical Results                                                                                   | Analysis Time |
|-----------------------------------|---------------------------------------|--------------------|---------------------------------------------------------------------------------------------------|---------------|
| <b>Lactate/ethanol in ketchup</b> | Diluted sample 1:1 with reagent water | 25 µl              | Lactate: CV = 1.76 - 2.25% at 72.5 - 72.8 ppm<br>Ethanol: CV = 2.13% - 2.19% at 181.2 - 181.7 ppm | < 1 min.      |



### Biofuels Applications

Such as, xylose and glucose in corn stover fermentation in bioethanol production. YSI analyzers provide a simple, fast alternative to HPLC for cellulosic biofuels research and production.

| Application                                       | Sample Preparation                   | Sample Information | Typical Results                                                                                                          | Analysis Time |
|---------------------------------------------------|--------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Glucose/xylose in corn stover fermentation</b> | Samples > 30 g/L xylose were diluted | 13 µl              | Glucose correlation with HPLC:<br>$y = 0.903x - 0.037$<br>$R^2 = 0.996$<br>Xylose: $y = 0.994x - 0.252$<br>$R^2 = 0.985$ | < 1 min.      |

breakfast cereals; potatoes, baked goods, molasses, whole blood, spinal fluid, plasma, fermentation broth, cell culture media and more. Please visit [www.ysilifesciences.com](http://www.ysilifesciences.com) for more details.

## Specifications

|                         |                                                                                    |
|-------------------------|------------------------------------------------------------------------------------|
| Aspirated Sample Volume | User-defined from 5 to 65 µl                                                       |
| Analysis Time           | 60 seconds                                                                         |
| Precision               | Application specific, typical CV <2%                                               |
| Linearity               | +/- 5% Cal value to maximum                                                        |
| Dimensions              | 8.0" W x 20.5" D x 15.75" H<br>20.3 cm W x 52.1 cm D x 40.0 cm H                   |
| Working Environment     | 15 to 35° C ambient temperature,<br>10 to 90% relative humidity<br>(noncondensing) |
| Power Requirements      | 110-120 VAC or 220-240 VAC<br>50-60 Hz<br>50 Watts nominal                         |
| Regulatory Compliance   | CE, RoHS                                                                           |
| Automation              | Up to 96 samples                                                                   |
| Weight                  | 28 lbs./12.7 kg                                                                    |

### About YSI

Founded in 1948, YSI develops and manufactures scientific instruments, sensors and systems that serve a variety of scientific, environmental and industrial markets worldwide. YSI has a long history in the life sciences and bioanalytical markets, most notably with our introduction of the world's first commercial whole blood glucose analyzer in 1975. Today there are over 10,000 YSI instruments installed around the world, trusted in critical situations to provide the most accurate data in the shortest time.

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