

## EST'S 4650 zNose®



# Ultra fast. Ultra flexible.

[www.estcal.com](http://www.estcal.com)

**T**he new 4650 zNose® is the first and only analyzer with a fully integrated computer to do all your analysis in the field without the need for an external laptop computer. Couple that with the 4650's impressive speed and you've got the most flexible and accurate machine available.

Because it's portable and can analyze in real time, it significantly reduces product changeover time to a fraction of what they are now.

- Remarkable speed
- Small footprint
- Can detect and analyze accurately organic, biological & chemical compounds in real time
- Saves time on product line changeovers
- Requires minimal training
- Accurate and efficient analysis
- Compounds are automatically identified
- Computer runs Microsense software
- Fully integrated single unit mobility
- 1 00 fold multiplication
- Locking sensor ensures consistent sensor positioning

## 4650

### *Mobile Ultra-Fast GC Analyzer*

#### **The Product**

The Model 4650 is a completely portable GC/SAW with an internal controller. Simple operating steps for automated results. The 4650 is designed with an internal helium cylinder (refillable), and can use disposable helium cylinders. The lithium ion battery is rechargeable, typically lasting 5 hours.

## The Process

Employing a trap and helium carrier gas, the Model 4650 injects samples into a heated column where separation is achieved. Materials sequentially exit the column and are deposited on the SAW detector. This deposition results in a change in the oscillating frequency of the resonator directly proportional to the mass.

### Analysis Time/ Recycle Time

- 5 — 60 seconds / 30 seconds min.

### Precision and Accuracy

- Standard Deviation <2%

### Sensitivity

- Can analyze vapors in 10 seconds with sensitivity in parts-per-billion for many compounds
- Detects hydrocarbons in the range of C4 — C25. Sensitivity will vary by compound sampling time, matrix, interferences and detector temperature settings.

### Sampling

- Internal Sample Pump
- Sample Introduction: —.5 ml/second
- Time programmable: 1-300 seconds
- Sample absorbed into internal tenax Pre-concentrator

### Compound Identification

- Automatic with user calibration

### Dimensions

Head

- **Weight** 5.7 lbs 2.6 kg
- **Length** 1 2.5 in 31.8 cm
- **Width** 4.3 in 10.9 cm
- **Height** 6.8 in 17.3 cm

Support

- **Weight** 1 8.7 lbs 8.5 kg
- **Length** 15.0 in 38.1 cm
- **Width** 9.7 in 26.4 cm
- **Height** 5.8 in 14.5 cm

Charger

- **Weight** 7.7 lbs 3.5 kg
- **Length** 1 3.5 in 34.25 cm
- **Width** 9.7 in 1 4 cm
- **Height** 3.7 in 9.5 cm

### Environmental Conditions

- Operating Temperature Range: 32°F to 105°F (0°C to 40°C)
- Relative Humidity: 0 — 95% non-condensing

### Power

- Battery Pack: 28VDC, 16 Ahr - Lithium-Ion (5 hr use typical)

### Detector

- Surface Acoustic Wave (SAW) Quartz microbalance
- Dynamic Range: 10s
- Temperature: 0°C to 150°C, programmable

### Column Limits

- 35°C to 225°C — depending on column

### Column Ramping

- Ramped from 0 — 18°C/second

### Carrier Gas

- Helium (Min. 99.999% Purity, #6) Typical usage is 300 tests per day on one helium charge

- Helium (Replaceable Cylinder), 95cc at 17.6 MPz (2560 psi). Typical usage: 200-300 tests

#### **Inlet**

- Connection: Stainless Steel LUER inlet port
- Temperature: 50°C to 200°C

#### **Data Storage/Transfer**

- USB port for external memory and Built-in storage

#### **Electronic Sensor Technology**

1125 Business Center Circle

Newbury Park, CA, 91320

**Ph:** (805)480-1994

**Fax:** (805) 480-1984

**Email:** [italib@estcal.com](mailto:italib@estcal.com)