

EasySampler™ Collection System



EASYSAMPLER SYSTEM:

The patented EasySampler System (US Patent # 5,467,776) was designed to provide a method for filling vacuum tubes with a sample suitable for analysis with BreathTracker and MicroLyzer instrumentation which have the ability to detect Carbon Dioxide (CO_2). It is necessary to use instrumentation which measure CO_2 because there are sources of sample dilution which require correction when the samples are analyzed. There is a residual volume of air in the tube, although it is evacuated as far as practical in its preparation. There may be a slight contamination with dead space room air during sample collection. Since the volume of the tube is limited to about 12mL and the sample loop (internal to the MicroLyzer SC or BreathTracker SC and H2+) may not completely flush, some residual carrier gas (room air) may dilute the sample in the sample loop.

The EasySampler is preferred by clinics and laboratories which analyze samples collected elsewhere and are mailed in for analysis. This is because of the convenience of the tube for handling, the stability of the sample in a glass tube which allows longer-term storage, and the simple, straight-forward technique of using the EasySampler System. Sample dilution is not a problem because the BreathTracker SC and H2+ and MicroLyzer SC are designed to correct for dilution of the trace gases by reference to the decreased concentration of CO_2 .

Ordinarily, a correction factor of 1.2 to 1.5 is required to compensate for all the factors contributing to sample dilution. The correction factor applied to each sample permits a reliable picture of the pattern of trace-gas response to the challenge-dose of sugar ingested for whatever test is performed.

It is necessary to use unsterile vacuum tubes without anticoagulant for the sample collection because standard sterile tubes contain high concentrations of H_2 ¹ which will contaminate the sample. QuinTron recommends using only vacuum tubes provided by QuinTron for assurance of accurate samples.

STORAGE LIMITS:

After the alveolar air sample is collected in the vacuum tube and the tube has been removed from the Tube/Needle holder, the sample may be immediately analyzed or stored for up to 14 days. After 14 days, CO_2 may begin to decrease and the correction factors may become skewed. The tubes can be transported by truck or air without affecting the samples within the tubes when packaged correctly and analyzed within the required time frame.

1. Jensen, W.E.; O'Donnell R.T.; Rosenberg, I.H.; Karlin, d.A.; Jones, R.D. Gaseous contaminants in sterilized in evacuated blood collection tubes. *Clim Chem.* 1982;28:1406

