

APPLICATION NOTE – DETERMINING THE DENSITY OF FLAVORINGS, FRAGRANCES, AND ESSENTIAL OILS

Application Need: The food, cosmetics, and pharmaceutical industries need to quickly and efficiently determine the densities of many flavorings, fragrances, and essential oils to guarantee that their products' contents match the package specifications.

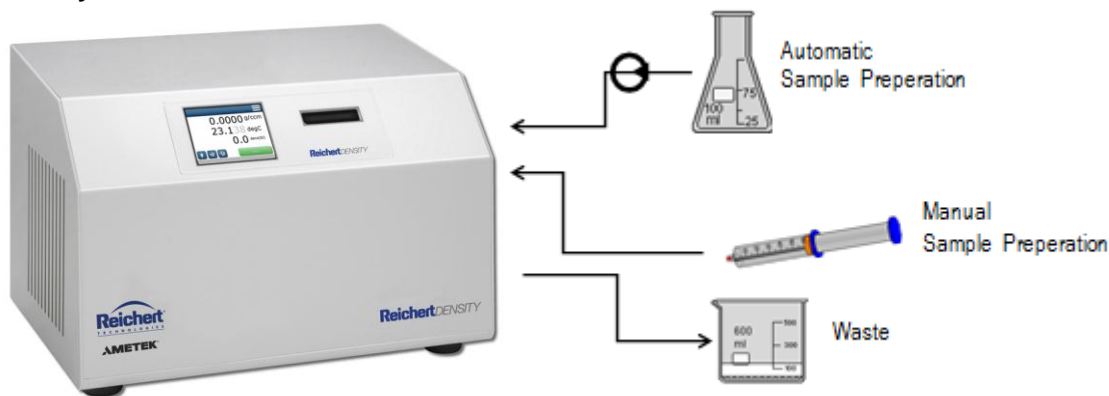
Many flavorings and fragrances are quite expensive, and it is therefore ideal to use as little of the substances for a measurement as possible, while requiring as little re-testing as possible, to minimize product waste. Traditional density measurement methods require large samples, and are not accurate. They often require re-testing, which wastes additional product. This also is time-consuming, which impacts productivity.

Solution: The Reichert Density4 and Density5 Digital Density Meters perform density analysis in almost one third of the usual measurement time, while increasing the measurement accuracy. They also use small sample sizes.

The Process

Small sample volumes are injected directly or can be automated (which is recommended for inexpensive samples) into the measurement chamber.

Density4



After the density measurement is performed, the results can be printed out or saved electronically for further analysis.

Reichert Advantages

Reichert's density meters have several advantages over the competition:

- **Compact size, low weight, and robust, single-piece design:** takes limited space on the bench
- **Solid-state Peltier thermostat:** provides precise temperature control to 0.03 degree Celsius
- **Measurement module exchange program:** if the measurement module requires service, it can be exchanged for a replacement module on-site, which eliminates extended downtime and service turn-around time
- **Quick measuring time:** measurements can be obtained in less than 30 seconds
- **Compliance:** European and American Pharmaceutical, GMP/GLP, and 21 CFR Part 11, ASTM, ISO, and DIN Standards

Product Recommendations:

Density4 Density Meter Reichert Cat # 14004000
Measure densities to accuracy of 0.0001 g/cm³



Density5 Density Meter – Reichert Cat #14005000
Measure densities to accuracy of 0.00005 g/cm³



Optional Universal Display for use with the Density5 – Reichert Cat# 14009500

