

Beverage

Weighing and Analysis in the Laboratory



1 News

DL22 Food & Beverage Analyzer – the easy way to titration

The DL22 Food & Beverage Analyzer is, thanks to its intuitive user guidance and predefined food and beverage applications, the ideal instrument for a variety of working environments where tests are frequent, but the number of simultaneous determinations do not justify automation. The DL22 Food & Beverage Analyzer can facilitate such daily analysis requirements.

Dedicated to your industry

The brand new DL22 Food & Beverage Analyzer is the ideal instrument for 'simpler' titration applications in the beverage industry. It offers high-performance titration at an affordable price and includes 33 preprogrammed methods most commonly used in the food and beverage industry which can be, if required, easily adapted to individual needs. Predefined methods include, for example, pH measurements, which are important at all stages in the production of fruit juice, wine and milk as pH control is an important factor. Besides pH, the correct concentration of acids is one of the many parameters that can easily be monitored with the DL22 Food & Beverage Analyzer.

Simplify your daily work through optimization

METTLER TOLEDO's DL22 Food & Beverage Analyzer ensures an exact measurement of antioxidants, thus creating opportunities for improving the quality and shelf life of end products. According to a start-up company in Switzerland, the DL22 Food & Beverages Analyzer's greatest asset is its ease of use and its fantastic ROI (Return on investment). For instance, for Vitamin C analysis of professional laboratories, the DL22 Food & Beverage Analyzer has a payback period of less than three months. Ask your local METTLER TOLEDO representative for a copy of the applications brochure today.



► www.mt.com/DL22FB

METTLER TOLEDO

Fast and simple quality control from a trusted partner



In order to remain one of the biggest brands in the mineral water market, Sanpellegrino requires fast, reliable and simple quality control. METTLER TOLEDO instruments can be automated, are used both in process control and in the laboratory and assure appropriate acidity and sweetness of the drinks. Mr. Romano Barcella, lab manager at Sanpellegrino Spa, is very satisfied with the performance of titrators, refractometers and balances for a variety of good reasons.

Increased productivity due to titration automation

METTLER TOLEDO instruments are omnipresent in the calm, well organized laboratory of Sanpellegrino Spa. A DL50 Titrator with a Rondolino sample changer determines alkalinity in mineral water, acid number in soft drinks and concentration of alkaline cleaning fluid.

Mr. Barcella comments: *"We are particularly fond of the Rondolino, the little turntable sample changer. When we prepare a series, we load nine samples onto the tray, press run and 'presto', results appear in*

the LabX database on the computer. We gain a lot of time we can use for method development, administration or house keeping".

The simple operation of the DL50 Titrator means that a second instrument can be used in production next to a very busy bottling line. Production operatives perform easy process checks on it using exactly the same methods as are run in the lab, which ensures comparability of results. A second advantage of two identical instruments is the availability of a back-up system. Both titration systems are connected to METTLER TOLEDO balances for easy and error-free weight transfer.

Mr. Barcella smiles: *"We have had one of the balances for more than 20 years. But since it still performed beautifully, we decided to link it to the brand new titration system and it is still going strong"*.

Greater flexibility due to simplified Brix measurement

Brix, or sugar concentration, is a crucial measurement for soft drinks quality and has to be analysed frequently for many different products. Sanpellegrino staff

appreciate the simplicity and robustness of the METTLER TOLEDO RA510 Refractometer employed for this purpose. The operator puts a drop of sample onto the prism, presses one key to start the measurement and a few moments later the sugar content of an Aranciata soft drink is printed out. It is so easy to use, that all the staff at the Sanpellegrino Lab can use it, which greatly enhances planning and staffing flexibility.

Satisfaction with a strong partnership

Mr. Barcella is satisfied with METTLER TOLEDO instrumentation for three main reasons: *"Firstly, the instruments allow us to save time and improve our productivity. We can transfer methods from one machine to the other, train new operators very quickly and automate whole series of samples. Secondly the instruments last a long time, which safeguards our investment and thirdly, the relationship with local representatives in the METTLER TOLEDO Milano office is straight forward, honest and fast, which improves instrument up-time and hence the quality of our beverages"*.



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► www.mt.com/titration
► www.mt.com/refractometry



A DL50 Titrator with a Rondolino sample changer determines alkalinity in mineral water, acid number in soft drinks and concentration of alkaline cleaning fluid.



Situated near Bergamo, Italy, in the southern foothills of the Alps, San Pellegrino Terme gets its water from a famous thermal hot spring. For centuries, the rich and mighty came here to enjoy the clean air and benefit from the healing properties of the mineral water. The company, now owned by Nestlé Waters, is the largest Italian beverage company and successfully exports its produce to the whole world. It bottles sparkling mineral water and a variety of soft drinks such as the refreshingly different *Aranciata Amara*, a slightly bitter tasting orangeade.



Relationship beyond products: METTLER TOLEDO product manager Giorgio Galimberti provides his expertise for the titration system in process control .



Laboratory manager Mr. Barcella operating the DL50- Rondolino system.



The RA510 refractometer for brix measurement. So easy to use it puts a smile on the face of the operators.

Coffee Quality Analysis with Halogen Moisture Analyzers



Monitoring the condition of coffee beans after shipment and knowing the correct settings for roasting and for grinding are the most important activities in producing coffee. These parameters are determined through moisture analysis. Well-known coffee producers confirmed that the HR83 Halogen Moisture Analyzer is the ideal match for moisture determination of coffee, ranging from green coffee beans, to the ready-made roasted and ground coffee.

The right moisture content

In recent years the coffee business has experienced enormous growth. Coffee-consumers demand more and more top-quality coffee which has led to a high growth of the so-called gourmet coffee market. Moisture content is crucial for guaranteeing the consistency and quality of coffee during the whole manufacturing process.

The Halogen Moisture Analyzer HR83 has been proven especially valuable in coffee roasting facilities and instant coffee manufacturers where moisture content has to be continually checked during various steps of the production process, permanently guaranteeing repeatable and accurate results.

Fast and reliable results

For high-quality coffee products the HR83 Moisture Analyzer is the instrument of choice. Due to its halogen technology reliable moisture results can be obtained very fast. For instance, if 2.5 g ground coffee is heated at 105 °C, the result will be available within 5 minutes, whereas the drying time in the drying oven is at least 6 hours! Its utmost precision and repeatability goes almost without say-

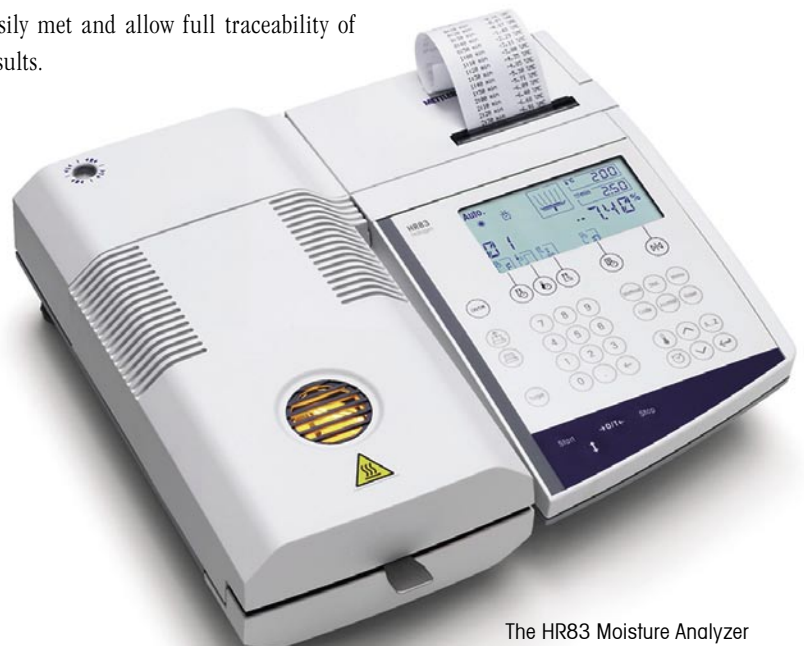
ing: For a selected type of ground coffee (see also www.mt.com/moisture-methods) the drying oven results of 3.27 % could be precisely reproduced with a repeatability error as low as 0.08 %.

If new coffee blends are created, which require new moisture measurement settings, the AutoMet feature assists extensively by cutting development time of a new method by approximately 50 %.

Furthermore, with the print-outs of the HR83 the demands for compliance with relevant standards like IFS and BRC are easily met and allow full traceability of results.

METTLER TOLEDO helps in achieving a high and constant level of quality coffee through the Halogen technology in its Moisture Analyzers. It delivers fast and remarkably accurate results and therefore is the preferred choice for coffee roasters worldwide.

► www.mt.com/HR83
► www.mt.com/moisture-methods



The HR83 Moisture Analyzer delivers fast and accurate results and assists you in developing your individual methods.

Efficient net content control as key task

Statistical Quality Control (SQC) is a necessary and crucial part in any kind of food production to satisfy customer needs and fulfill legal requirements. The system chosen to satisfy basic SQC needs will determine whether it is an awkward, intrusive task or a smoothly operating part of the process. Software and instruments used for statistical quality control must not only produce and collect quality data, but also provide the capabilities that make it a prerequisite of a well-run and effective quality system.

Choose the right SQC system

Most companies looking for an SQC system seek for an easy-to-operate and compact system that allows to efficiently control the net weight of their product samples as, for example, coffee and tea packages. Such a system should allow the storage of multiple articles, provide sample identification as well as yield statistical analysis including graphical representation of the results. Out-of-specification samples should be easy to identify by the line operator and clearly marked on the report for quality management purposes.

Compact solution for reliable production control

The successful implementation of Statistical Quality Control (SQC) begins with the selection of the tools and methods best suited to a company's quality goals. The heart of the SQC system is the balance recording the net weight of the product sample. METTLER TOLEDO offers this with its XP precision balance in combi-

nation with an SQC14 printer for a reliable and compact standalone solution. The XP precision balance is ideally suited to accomplish this task as it is equipped with a high-speed weighing cell giving fast and accurate weighing results. Due to its metal housing, the balance is sturdy and its flat surface makes it easy to clean – the ideal prerequisites for a harsh production environment. In addition, the graphical color touch-screen display makes the balance especially easy to operate. Samples that fall outside defined tolerances are indicated by a color change of the

SmartTrack which is clearly visible for the line operator. All results are immediately printed on the SQC 14 printer and, for a fast review, the graphical printout representation gives a precise, statistical overview, helping to minimize any errors.

Contact METTLER TOLEDO to find out more about our Statistical Quality Control solutions.

► www.mt.com/sqc
► www.mt.com/xp-precision



METTLER TOLEDO offers with its XP precision balance in combination with an SQC14 printer a reliable and compact standalone solution.

Large volumes and clean samples – with RAININ's innovative pipettes

Liquid handling in the beverage industry typically involves pipetting large volumes using absolutely clean pipette tips. RAININ, a METTLER TOLEDO company, provides two of the largest pipettes on the market: the adjustable manual Pipet-Lite and the electronic EDP3 with automatic linearity correction, allowing for full flexibility with no loss of accuracy throughout the complete measuring range from 2 ml to 20 ml.

Hand-friendly pipetting

RAININ's innovative product features focus on two aspects of manual liquid handling: precision and hand-friendly pipetting. Our pipettes utilize unique patented technologies, such as «magnet-assist» and «latch-mode», which reduce the typical excessive pipetting forces of traditional pipettes. Another unique feature is the LTS LiteTouch Tip Ejection System. LTS is revolutionary as its cylindrical design, the small but well defined seal area and a positive stop reduces tip ejection forces by 85 %.

Large volume accuracy

Adjustable volume pipetting has been, until recently, limited to 10 ml volumes. In the past, strict quality assurance measures could only be met by repeat pipetting of smaller sample volumes. With RAININ's 20 mL pipettes, the full range of liquid-handling from 2 ml to 20 ml

is covered. Ten times 2000 µL dispensing can be carried out quickly and sequentially. A complete choice of macro pipettes helps to make your daily pipetting work more convenient and efficient: 2000 µL, 5000 µL, 10 mL and 20 mL are available in various electronic and manual models. FinePoint precision tips with exact graduation marks assure that large volume pipetting is carried out with the same accuracy as smaller volumes.

Clean sampling is critical

Cleanliness is a precondition when dealing with beverages. The use of cleantips is essential for avoiding contamination risks. Contamination originates from many sources in and out of your lab and taking precautionary measures is vital. Absolute clean tips free from any contaminants prevent eventual cross-contamination during sample taking. RAININ tips originate from class 100 000 clean room

manufacturing specially designed for bioclean tip production. With RAININ's pre-sterile tips, racked or in individual tip packaged, you can be assured that tips will stay clean until usage.

► www.mt.com/rainin



With RAININ's 20 mL pipettes, the full range of liquid-handling from 2 ml to 20 ml is covered.

Automated titration helps Snapple free up time

In 2000, consumers drank over 568 million liters of Snapple – more than two liters for every person in the United States. Keeping up with such rigorous consumption requires constant and consistent beverage production. METTLER TOLEDO was able to offer advanced testing methods to Snapple allowing employees to free up time previously spent on manual testing and monitoring.

Reliable and time-efficient solution

Snapple Beverage Corporation has been selling their fruit beverages since 1972 when three childhood friends began selling pure fruit drinks to health food stores in the Greenwich Village area of New York. Snapple needed an improved method to test acidity levels in its tea and fruit juice-based beverage line. These natural ingredients vary in acidity levels and citric acid is added to enhance the flavor and to keep a constant quality. Acidity levels must be regularly maintained and monitored to deliver the highest-quality end product to the consumer. The manual titration method hindered regular monitoring of

these acidity levels, and this circumstance called for automation. The company needed a reliable and time-efficient solution to minimize human error and free up valuable time for employees to tackle other responsibilities.

METTLER TOLEDO offers a winning solution

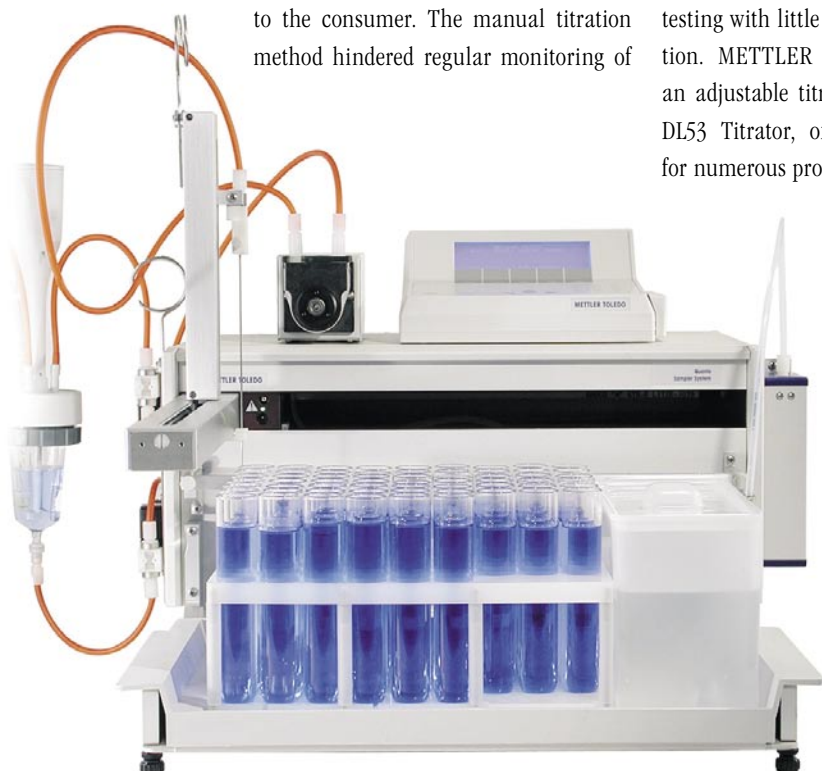
The METTLER TOLEDO DL53 Titrator provides Snapple with the operational reliability and autonomy along with the desired result of establishing independent titration. This automatic titration system is capable of running continual sample testing with little or no human intervention. METTLER TOLEDO implemented an adjustable titration method with the DL53 Titrator, offering total flexibility for numerous product lines and their as-



sociated pH measurements. The DL53's user-friendly interface easily accommodates any adjustments with precision and accuracy. Plus, company representatives estimate that the titrator saves up to half the workload of a full-time employee and the Quanto Auto Sampler helps Snapple employees by efficiently automating the analysis of 60 liquid samples without user interaction.

Snapple Beverage Corporation uses the METTLER TOLEDO DL53 Titrator and Quanto sample changer to streamline quality assurance and control its popular beverage line. Snapple's senior quality assurance manager is pleased with the METTLER TOLEDO solution. *"We just set the DL53 Titrator up during the day, at night, whenever – and just let it go. The main benefit is the reduced reliance on personal labor thus avoiding human errors. In a sense, you're saving about half a person."*

► www.mt.com/titration



The Quanto Auto Sampler helps Snapple employees by efficiently automating the analysis of 60 liquid samples without user interaction.

Strong solutions for improved productivity

METTLER TOLEDO's goal is to constantly devise and improve laboratory solutions and fulfill customer needs on the highest level. We provide effective technologies and state-of-the-art applicative solutions. Our balances meet a diversity of needs and our analytical instruments assure reliable liquid or substance composition or property results.



METTLER TOLEDO's InPro 6900 dissolved oxygen sensor and M 700 dual channel transmitter:
The shelf life of juices and ciders increases with a low dissolved oxygen content. Inline dissolved oxygen measurements in critical process steps can be realized by the user friendly InPro 6900 sensor and the cost effective dual channel transmitter M 700. Oxygen traces (ppb to ppm level) are monitored continuously and reliably.
www.mt.com/transmitter

Process Analytics



Industrial Weighing:

Designed for applications on the production floor such as receiving/shipment, formulation, blending or batching. A wide range of weighing indicators and platforms with ingress protection up to IP69k, designed for hygienic sensitive areas.

www.mt.com/industrial

Industrial Weighing Solutions

Analytical Instruments



METTLER TOLEDO SevenMulti pH/conductivity meter:
professional performance with modular expansion possibilities at any time!
www.mt.com/pH

Weighing Solutions



METTLER TOLEDO XS analytical balance:
XS, the first balance with grid weighing pan, sets new standards for speed, ergonomics and efficiency. Stabilization times are shorter, so productivity in routine operation increases dramatically.
www.mt.com/xs-analytical

Statistical Quality Control

Compact standalone solutions and PC-based/networked solutions help to save money by reducing overfilling, avoid legal complaints and streamline QA-procedures.

www.mt.com/sqc



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