

TAKASAGO Europe GmbH, Zülpich near Cologne

Decision to purchase thanks to excellent advice and technology

The headquarters of TAKASAGO Europe is responsible for the development and production of food flavourings and aromas. The new Quality Assurance Laboratory, opened in spring 1999, could in fact be a METTLER TOLEDO demonstration lab. Its latest balance, dryer, titrator, refractometer and pipette can be seen there in full operation. A careful evaluation of the products available on the international market lies behind every purchase of laboratory equipment. We wanted to find out why the decision was once again made in favour of METTLER TOLEDO.

"We consider the handling and application possibilities of METTLER TOLEDO pipettes to be outstanding in comparison with those of a previously used product"

TAKASAGO Europe GmbH

Sweets, jelly babies, fruit yoghurts, soft drinks, soups, sauces and many other manufactured foodstuffs as well as animal food and tobacco have something in common: they all need flavourings. It is this distinctive taste that helps a consumer product become successful in the market. The Japanese concern TAKASAGO International Corporation has over 2,000 employees worldwide and is one of the largest manufacturers of flavourings and aromas in the world.

TAKASAGO Europe GmbH is the European headquarters for the sale, development, application and production of flavourings and aromas

and looks after the markets in Europe (including Eastern Europe) and Africa. Other product lines, including fragrances, fine chemicals and extracts, are based in France and Spain.

Dr Dirk A Müller, Director of Quality Affairs, chose METTLER TOLEDO after careful evaluation of weighing and measuring equipment

Safe and reliable calibration of measuring equipment

Manufacturers of foodstuffs and tobaccos order their flavourings and aromas according to established recipes from TAKASAGO. New formulations are of course also created on request. In both cases, a large number of METTLER TOLEDO balances are responsible for weighing out large and small amounts of the constituents. The laboratory balances and industrial scales operate in their respective process orientated weighing ranges. They form part of a data communications network or are integrated in an automated dosing system wherever this makes sense or increases efficiency. Dr Dirk A Müller, the Director of Quality Affairs, explained: "We based our purchase decision not only on the technical data, but also took into account the fact that METTLER TOLEDO offers a variety of possibilities to ensure the correct calibration of

measuring equipment. Here we mean professional calibration and immediate service. Balances are an integral part of our work. Every weighing operation must be accurate, rapid and reliable, otherwise our just-in-time process is endangered."

Aromas, also for good tobacco flavour

The 'casing aromas', which are of great importance in the cigarette industry, are very viscous materials usually of high sugar content in which the tobacco leaves are laid in order to maintain their characteristic flavour. The conditions determine the basic moisture content of the tobacco. A casing aroma can only fulfil this important function if its own moisture content is correct. That is why a number of random samples are taken at different intervals directly from the production plant at TAKASAGO and sent to the quality assurance team for analysis. This has to be done rapidly, reliably and accurately.

Karl Fischer titration with a special homogeniser

First of all the water content is checked according to the Karl Fischer method. A special homogeniser mounted on the KF titrator (model DL38) reduces the sample to such a small size that the water can be extracted with a very high degree of efficiency. At the same time the titrator ensures that the results are reproducible.



Samples are prepared using a special spatula: a fine coating is spread on a round heat resistant fibreglass paper

The sample is then inserted into the halogen moisture analyser



A protocol is printed out while the drying is in progress. The HR73 halogen moisture analyser provides TAKASAGO Europe with important results for process control within minutes

Microwave versus halogen drying

The next step is to check the moisture content, characterised by the loss of weight on drying – a task for the HR73 halogen moisture analyser with its integrated protocol printer. Dr Müller explained: "We receive so many analytical procedures that are based on the standard drying oven method, but it is well known that this method is very slow and is not suitable for efficient process control. That is why I looked for a more rapid method. I thought of microwaves at first, but then decided against this, not least because the extremely high concentrated energy could initiate undesirable chemical reactions. Together with the METTLER TOLEDO product specialist, we were able to develop a method that gives us the information we need to give the 'go-ahead' to our large-scale production below. The halogen moisture analyser provides us with the relevant results for our quality assurance report within minutes and with a high degree of reproducibility. So, you see the decision to purchase the halogen moisture analyser was based on a combination of support and advice from the sales specialist, as well as technical data."

Oven drying versus halogen drying

Halogen drying provides data that can be correlated and efficient process control. "However because we have a lot of customers that use drying ovens, there was still one more important point to investigate, namely the correlation of data from

the drying oven with that from the halogen moisture analyser. With the current method we have now got that well under control. In the meantime one of our customers has also purchased a halogen moisture analyser and checks the incoming goods he receives from us," added Dr Müller.

In the TAKASAGO quality assurance lab, an assistant spreads a small quantity of the dark brown casing aroma onto a circular heat-resistant fibreglass paper with a special spatula and places it in the aluminium pan. At the stroke of a key, the pan slides into the HR73 and the halogen drying of the casing aroma begins immediately. Three or four minutes later, the loss of weight on drying is shown to two decimal places. Together with the actual delivery of the casing aroma, the customer receives a batch specific analysis certificate that also gives a list of the measured data.

A helping hand from METTLER TOLEDO pipettes

Halogen drying is also used for the final flavourings and aromas for another group of customers and has proved that it can be universally used. For certain liquid substances, the determination of the residue on evaporation is required. Drying is then continued to constant weight. The material under investigation is transferred to the aluminium pan using a pipette. Dr Müller added: "We decided to purchase the pipettes from METTLER TOLEDO six months ago because we consider the han-

dling and the application possibilities to be outstanding compared to those of a previously used product."

Refractive index: "Now we get the data that is really important for us!"

Dr Müller explained: "The value of the refractive index is important for all our liquid products. I have discovered that the RE40 model can provide us with exactly the values we need, for example with our cinnamon products. We made the right choice and perform excellent work with the instrument."

All the details are right

Further discussion revealed that Dr Müller had included a whole series of criteria in his evaluation. He said: "I consider easily understandable short operating instructions to be very important. This is because the instruments I choose have to be used efficiently right from the start for everyday work, and not only by specialists but also by personnel from other departments. The advantages of such a set of mini instructions is immediately obvious, both for the pH meters with different electrodes and for the balances, which are used by all of us in the plant." (DF)

For more information about the halogen moisture analyser [\ MT08](#)

For more information about Karl Fischer titration [\ MT09](#)

