DL22 F&B
Food & Beverage Analyzer

Everything for food and beverage titrations –
to ensure the quality of your products

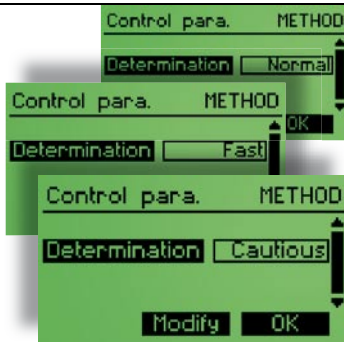**METTLER TOLEDO**

Your convenience … … our products:
6 features of an easy-to-use titrator

An appliance which is designed and intended precisely for your industry offers many advantages: What you really need has been built in, unessentials have been left out. Your daily analysis work will now become simple routine.
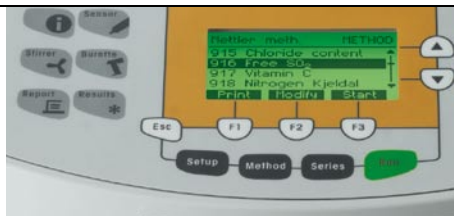
From an easy start…
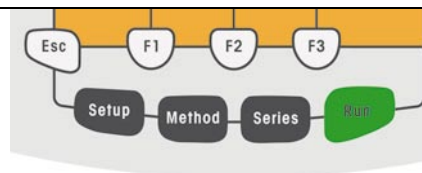
1. Predefined food and beverage applications

The DL22 F&B is a specialized titrator for the food and drink industry. It incorporates the methods most widely employed in these industries and uses predefined parameters. This makes work considerably easier. Three predefined options are available for selecting the control parameters for the titrations.

2. Convenient intuitive operation

By pressing the "Run" button twice, you can start the last method which was run. If you would like to have other methods available at the touch of a button, you can allocate these to the function keys, from F1 to F3. Symbol keys make work considerably easier as they enable operation of the most frequently used manual functions (rinsing burettes, measuring pH values and stirring), all at the touch of a button.

3. Clear overview from an integrated database

Using the "Setup" function key, you can access the DL22 F&B's integrated database. It allows you to add titrants or sensors and establish links to peripheral equipment (printer, balance or computer). If you create a new method or would like to select one from the methods list, the "Method" key will guide you clearly through all the necessary steps. You can easily create and process a series of samples for which the same method is used via the "Series" key.
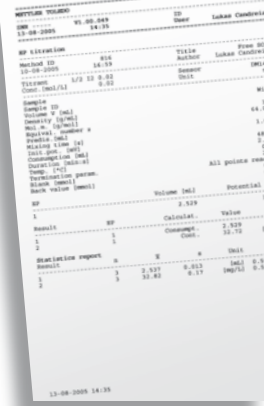
… to optimized solutions

6. Rondolino – compact and simple automation

A smart and automated titration stand for automating food and beverage titrations alongside the DL22 F&B titrator. Rondolino is extremely easy to install and can be accommodated on a base measuring only 25 x 35 cm, i.e. it requires significantly less space than the typical sample changer. Not only a series of up to 9 samples but also individual samples can be processed quicker since the titration beaker simply needs to be placed on the sample plate. Furthermore, once the titration is complete, the electrode is returned to the conditioning beaker.

5. Reliability through results in predefined units

The DL22 F&B automatically calculates results using predefined units. Depending on the method selected, METTLER TOLEDO has predefined the most common calculations using the appropriate units. The results are stored and can be printed out as a clearly structured report via the compact METTLER TOLEDO RS-P42 laboratory printer.

4. Efficient operation with a keypad similar to a mobile phone

Alphanumeric inputs can be entered using a key panel similar to a mobile phone and require no external keyboard. It has never been so easy to input the name of a titrant, to store a method under another name or even to carry out a manual titration. If input fields only allow figures to be entered, the keypad is set by default to "numeric". This allows you to work that much faster.

The whole spectrum of food and beverage titrations

...or the maximum concentration of oxidative ingredients

To ensure the high quality of your end products, use the DL22 F&B to monitor the free fatty acids and peroxide number.

Free fatty acids in
- potato chips
- oils
- fats
- butter, margarine

Peroxide number in
- oils
- fats
- butter, margarine

It is particularly important to determine the level of sulfur dioxide since its antiseptic and antioxidant properties only start of have an effect once a certain concentration has been reached...

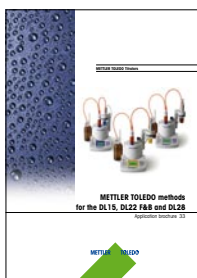...whereas too high a content of SO_2 causes headaches.

- SO_2 in wine

...as an antioxidant to increase shelf life

Vitamin C in
- fruit juice
- muesli

METTLER TOLEDO application brochure

Take a look at the DL22 F&B application brochure for a quick overview of all the methods for your particular market. It contains the whole range of METTLER TOLEDO methods and information on how to set these up on your DL22 F&B. Ask your local sales representative for a copy.

METTLER TOLEDO Titrators

**METTLER TOLEDO methods
for the DL15, DL22 F&B and DL28**
Application brochure '33

METTLER TOLEDO

www.mt.com/DL22FB

The whole spectrum of food and beverage titrations

...different levels of salt content determine the right taste and decide your success

Salt content (chloride) in
- ketchup
- potato chips
- gherkin
- mayonnaise
- salad dressing
- cheese
- vegetable juice

...the pH measurement is essential for monitoring certain production steps

Measure the pH value in
- fruit juice
- wine
- milk
- cheese

...the correct concentration of acid is one of many parameters which can easily be monitored with the DL22 F&B
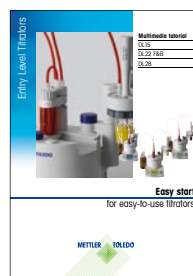
Acid content (aqueous)
- fruit juice
- wine
- muesli
- salad dressing
- non-alcoholic beverages
- condiments

...Fresh water is involved in almost every process

- total hardness
- p&m values (basicity/alkalinity)
- pH value
- chloride content

Multimedia tutorial for entry-level titrators

A multimedia tutorial CD is supplied with the DL22 F&B titrator as standard. By using the "Learning through seeing" method, you can get to know your titrator very easily and quickly. You are guided by a combination of interactive sections and video sequences through the necessary stages, from setting up the instrument through to performing the first analysis.

Entry Level Titrators

Multimedia tutorial
DL15
DL22 F&B
DL28

Easy start
for easy-to-use titrators

METTLER TOLEDO

Functions and specifications

Analysis	Acid/base, argentometric (Cl, Br, …), redox, complexometric, photo-metric, pH measurements, ion-selective measurements
Methods and setup	Predefined METTLER TOLEDO methods Memory for own methods Selection lists for titrant and sensors
Control and analysis	Endpoint titration (EP) with dynamic and incremental titrant addition Equivalence point titration (EQP) with dynamic and incremental titrant addition Predefined, selectable parameters (fast, normal, cautious - for titrant addition) Equilibrium or time-increment controlled measured value transfer Steepest jump Predefined formulas for the most important calculations Statistics for up to 100 samples
Display and keypad	Online curve Alphanumeric input with special characters, indices and exponents Programmable function keys to start methods quickly
Documentation	GLP-compliant printout Printout of titration curves
Dosing	1, 5, 10, 20 mL exchangeable burettes Maximum number of steps per burette volume: 10000 Filling time: 20 secs
Help functions	Manual dosing and titration, stirring, measurement of pH value and temperature Direct access to results, reports and setup information
Technical specifications	Signal resolution: ± 0.1 mV Voltage range: ± 2000 mV

Accessories

Sensor	Application
DG115-SC *)	pH, aqueous
DG111-SC	
DG113-SC	pH, non-aqueous
DG116-Solvent	
DM140-SC	mV, redox
DM141-SC	mV, argentometric
DM143-SC	mV, voltametric µA, amperometric
DP5 Phototrode™	mV, photometric
DT1000	Temperature °C, °F, K

Peripheral equipment	Interface connection
Magnetic stirrer	Stirrer
Rod stirrer *)	
Balances	(RS232-C)
RS-P42 printer	
Printer (PCL3+-log)	Centronics
Rondolino	TTL-I/O
Kjeldahl distilla-tion apparatus	

*) Standard accessories