

A Precise & Mobile Laboratory RQflex[®] 20 reflectometer

The Reflectoquant[®] system for rapid and precise in-process monitoring and rapid QC analysis



MilliporeSigma is the U.S. and Canada Life Science business of Merck KGaA, Darmstadt, Germany.

Find it at **fishersci.com** and **fishersci.ca**





Reflectoquant[®] System Mobile accuracy with test strips

strip - pip - read record - action

Take your lab to the sample with the compact and easy-to-use RQflex[®] 20 reflectometer from Supelco[®] analytical products. Monitor materials at any stage of your production process or during disinfection control to obtain precise quantitative results rapidly, and directly on-site.

The Reflectoquant[®] system consists of test strips and reflectometers. This mobile laboratory gives you all the tools you need for high quality analyses for a wide spectrum of sample materials from food, water, and industrial to environmental samples.



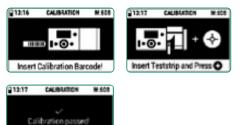


Intuitive menu navigation

Our new menu is simple and easy to use to access all your methods, results and quality assurance options, along with the ability to tailor your settings to your needs.



The display shows easy-to-follow pictograms of the method and workflow for straightforward measurement and accurate reproducible results.





Portable analysis

Press OK?

This light and compact system acts like a mobile laboratory to perform critical analyses and obtain quantitative results directly on-site. Get results in minutes for easy monitoring of your materials throughout your workflow.

Barcoded test strips with batch specific calibration

For every test condition, each batch of test strips is calibrated and equipped with a barcode for accurate and reproducible results. Obtain consistent results quickly with an average accuracy within \pm 10% in the middle of the measuring range.



Instrument-supported Analytical Quality Assurance

For analytical quality assurance (AQA), the RQcheck and total system monitoring (TSM) process ensures accurate and precise measurement results. Straight forward calibration can be easily carried out to reset the baseline, so your results will always be reliable.

Tests and application notes to fit your needs

From ammonium through to nitrate and urea, we have a comprehensive range of test kits for fast instrumental analysis, e.g., for testing sugar content in chocolate, nitrate content in vegetables, or the freshness of honey.

Countdown-timer to streamline your analysis

For maximum reproducibility, a countdowntimer with an advanced warning alert before the end of the test strip preparation time can be tailored to fit in with your workflow.





Different languages available

Choose from English, German, French, Spanish, Portuguese, Japanese or Chinese.

Discover our Application Notes for Reflectometry

Reflectoquant[®] application notes offer a step-by-step sample preparation guide, and information to determine various parameters for agriculture, food & beverage, or disinfection control processes.

With over 100 application notes for reflectometry, find the ideal method to support your production processes and analyses.



Scan QR code to access

Agriculture



Control nutrients in soil and plant products

Along with nitrogen, phosphorus is a nutrient that plants need in large quantities for normal growth. Due to possible overfertilization, it is important to analyze those parameters in agriculture production.

Find out how the mobile Reflectoquant[®] test system and our application notes for agriculture will support your analyses and crop management. For high-precision analyses, we offer Spectroquant[®] Prove plus benchtop system.

Disinfection Control

0.1% peracetic acid is enough to kill bacteria, viruses, fungi and even spores in the shortest possible time

This is why it is used for cold septic disinfection of beverage bottles, for example. Complete disinfection control involves various methods for testing parameters at high and low concentration ranges.

See how our mobile Reflectoquant[®] system as well as our handy MQuant[®] test strips offer efficient solutions for on-site analysis.



Food & Beverage Testing

Rapid quantitative detection of hydroxymethylfurfural in honey

The freshness of honey is determined by measuring its hydroxymethylfurfural (HMF) content. HMF is an organic compound that arises from the dehydration of fructose, e.g. when honey is heated for easier filling. HMF is barely detectable in freshly centrifuged honey, but increases about 2–3 mg/kg annually, depending on storage temperature and pH. At 21 °C, HMF content can rise to 20 mg/kg in just one year.

See how our application note "HMF in honey" and the Reflectoquant[®] HMF test provide the first rapid test method for the accurate determination of HMF content in just a few minutes.



Test Vitamin C in Food & Beverages

Vitamin C (ascorbic acid) is an essential characteristic of many foods and drinks. Its depletion should be monitored as it implies a deterioration of quality and taste.

See our Reflectoquant[®] Ascorbic Acid Test application note for over 15 sample materials.

Monitor acrylamide formation

In fried or baked goods, like potato chips, the reaction between asparagine and reducing sugars (fructose, glucose, etc.) may produce acrylamide, which is considered toxic and carcinogenic. Consequently, maximum limits of reducing sugars in potatoes should not be exceeded.

Find our application note "Total sugar in potatoes" for the Reflectoquant[®] Total Sugar Test.





Rapid, accurate and precise tests

Mo	Mobile accuracy with test strips Rapid, accurate and precise tests								Beer processing Food testing Juices Milt products Mineral water Soft drinks Aquacuture Bouler water frouting water frouting water frouting water Summing water frouting water frout frouting water frout frout frout water frout frout													
	Parameter	Graduation	No. of tests	Cat. No.	Method	Туре			d and							(Analyt	· 20	•		Othe		Parameter
A	Ammonium Test	$0.2 - 7.0 \text{ mg/L NH}_4$	50	1.16892.0001	Indophenol blue	Reagent, incl.								•	•		•	•				Ammonium Test
	Ammonium Test	5.0-20.0 mg/L NH ₄	50	1.16899.0001	Indophenol blue	Reagent, incl.																Ammonium Test
	Ascorbic Acid Test	25-450 mg/L ascorbic acid	50	1.16981.0001	Phosphomolybd. blue														_			Ascorbic Acid Test
в	Blank Strip		50	1.16730.0001																		Blank Strip
C	Calcium Test	5–125 mg/L Ca	50	1.16125.0001	Phthalein complexone						• •	_ _									_	Calcium Test
	Chlorine Test (free chlorine)	0.5-10.0 mg/L Cl ₂	50	1.16896.0001	Redox reaction	Reagent, incl.																Chlorine Test
F	Formaldehyde Test	1.0-45.0 mg/L HCHO	50	1.16989.0001	Triazole	Reagent, incl.														•		Formaldehyde Test
G	Glucose Test	1-100 mg/L Glucose	50	1.16720.0001	Enzymatic reaction																	Glucose Test
н	Hydroxymethylfurfural Test	1.0-60.0 mg/L HMF	50	1.17952.0001	Enzymatic reaction																	Hydroxymethylfurfural Test
I	Iron Test	0.5-20.0 mg/L Fe(II)	50	1.16982.0001	Triazine																	Iron Test
L	Lactic Acid Test	3.0-60.0 mg/L lactic acid	50	1.16127.0001	Enzymatic reaction																	Lactic Acid Test
~	Magnesium Test	5–100 mg/L Mg	50	1.16124.0001	Phthalein complexone																	Magnesium Test
	Malic Acid Test	5.0-60.0 mg/L malic acid	50	1.16128.0001	Enzymatic reaction																	Malic Acid Test
N	Nitrate Test	3-90 mg/L NO ₃	50	1.16995.0001	Modified Griess' reaction																	Nitrate Test
	Nitrate Test	5–225 mg/L NO ₃	50	1.16971.0001	Modified Griess' reaction						• •							•				Nitrate Test
	Nitrite Test	0.5-25.0 mg/L NO ₂	50	1.16973.0001	Griess' reaction)													Nitrite Test
	Nitrite Test	0.03-1.00 g/L NO ₂	50	1.16732.0001	Aromatic amine)								Nitrite Test
P	Peracetic Acid Test	1.0-22.5 mg/L peracetic acid	50	1.16975.0001	Redox reaction																	Peracetic Acid Test
	Peracetic Acid Test	20.0–100 mg/L peracetic acid	50	1.17956.0001	Redox reaction															•		Peracetic Acid Test
	Peracetic Acid Test	75-400 mg/L peracetic acid	50	1.16976.0001	Redox reaction																	Peracetic Acid Test
	Peroxide Test	0.2-20.0 mg/L H ₂ O ₂	50	1.16974.0001	Enzymatic reaction													•				Peroxide Test
	Peroxide Test	$100 - 1,000 \text{ mg/L H}_2\text{O}_2$	50	1.16731.0001	Enzymatic reaction																	Peroxide Test
	Phosphate Test	5–120 mg/L PO ₄	50	1.16978.0001	Phosphomolybd. blue	Reagent, incl.)													Phosphate Test
	Potassium Test	0.25–1.20 g/L K	50	1.16992.0001	Dipicrylamine	Reagent, incl.																Potassium Test
S	Sucrose Test	0.25-2.50 g/L	50	1.16141.0001	Enzymatic reaction	Reagent, incl.																Sucrose Test
	Sulfite Test	10-200 mg/L SO ₃	50	1.16987.0001	Nitroprusside/ Zn-hexacyanoferrate			•										•				Sulfite Test
т	Total Hardness Test	0.1-30.0 °d	50	1.16997.0001	Phthalein complexone						•											Total Hardness Test
	Total Sugar Test (glucose and fructose)	65–650 mg/L total sugar			Enzymatic reaction	Reagent, incl.																Total Sugar Test (glucose and fructose)
u	Urea Test in Milk Application	0.2–7.0 mg/L NH ₄	50	1.16892.0001	Indophenol blue	Reagent, incl.																Urea Test in Milk Application

Technical data

Dimensions:	184 × 79 × 30 mm
Weight:	253 g (including batteries)
Memory:	50 test methods 200 measurement results 50 RQcheck results 50 calibration results
Light source:	4 LEDs, green/red, double optics
Power source:	4×1.5 -V batteries (AAA)
Display:	Reflective LCD Graphic Module (256 \times 160 dot)
Measurement range:	4-90% rel. remission
Reflection area:	4 × 6 mm
Resolution:	0.1% rel. remission
Operating temperature:	5-40 °C for ideal measurements
Operating humidity:	below 80% for ideal measurements

Order Information

Product	Cat. No.
Reflectoquant [®] RQflex [®] 20 reflectometer	1.17246.0001
Reflectoquant [®] Recalibration Set	1.16954.0001

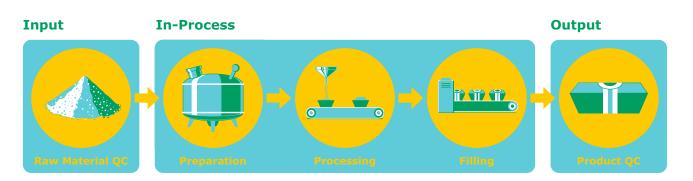




Beverage Workflow

Food and beverage producers face increasing safety regulations requiring detailed analyses of raw materials, in-process controls, quality tests, and hygiene monitoring. Because all of these analyses take time, our rapid and on-the-spot tests for chemical and microbiological contamination are designed to help get your product ready for purchase faster. Find a selection of products that support your workflow to accurately analyze microbiological contamination and important chemical parameters in food and beverages such as ascorbic acid, glucose, and fructose.





Instruments & Test Kits

Reference Materials

- Ready-to-use reference materials for photometric test kits
- Certipur[®] standards
- Standards for pesticides

Ingredient and Nutritional Testing

- Kjeldahl, total dietary fiber
- Flavors and fragrances
- Karl Fischer reagents

Rapid Chemical Testing with Reflectoquant[®] or MQuant[®] Systems

- Reflectometer[®]: RQflex20[®]
 Cat. No. 1.17246.0001
- Reflectometric tests
 - Ascorbic Acid Test Cat. No. 1.16981.0001
 - Sucrose Test Cat. No. 1.16141.0001
 - Glucose Test Cat. No. 1.16720.0001
 - Nitrate Test Cat. No. 1.16971.0001
 - Urea (Ammonium) Test Cat. No. 1.16892.0001
- Visual tests
 - pH-indicator strips pH 0-14
 Cat. No. 1.09535.0001
 Cat. No. 1.09535.0007
 - Free Fatty Acids Test strips Cat. No. 1.17046.0001

Complementary Testing

- Chromatography, e.g. HPLC, GC, TLC
- Microbial filtration testing, e.g. EZ family
- Water purification testing, e.g. Milli-Q® system



Protocols & Resources

- Selection of Application Notes
 - Chromium (total) in dairy products
 - Nickel (total) in dairy products
 - Nitrogen (total) in dairy products
 - Phosphorus (total) in dairy products
 - Urea in milk
 - Hydroxymethylfurfural (HMF) in honey
 - Ascorbic acid in juices
 - Sucrose (saccharose) in soft drinks
 - Glucose in red and white wine
 - Nitrate in Vegetables
 - Nitrate in Milk Powder
 - Nitrate in Vegetables
 - How Fresh is Your Honey
 - Total Sugar Testing in Diet Soft Drinks
 - Glucose Content Testing
 - Ascorbic Acid in Food
 - Monitor Acrylamide
 - Quality of Frying Oil
 - Milk Quality Testing

Disinfection Control in Your Workflow

Facilities that are not disinfected effectively have more potential safety risks. Disinfection control remains critical in ensuring the safety of your product. However, the determination of chemical cleanliness requires instruments and means and not just the human eye. Ensure the safety of your production line after disinfection.





Water Bottling **Packaging Control**

Brewerv Filling/Bottling

Food Processing **Product OC**





Output Control

Instruments & Test Kits

Rapid Chemical Testing with Reflectoquant[®] or MQuant[®] Systems

- Reflectometer: RQflex[®] 20 Cat. No. 1.17246.0001
- Reflectometric tests
 - Chlorine Test Cat. No. 1.16896.0001
 - Peroxide Test Cat. No. 1.16731.0001
 - Peracetic Acid Test Cat. No. 1.16976.0001
 - More reflectometric test kits see page 6
- Visual tests
 - pH-indicator strips pH 0-14 Cat. No. 1.09535.0001 Cat. No. 1.09535.0007
 - Peroxide Test strips Cat. No. 1.10011.0001 Cat. No. 1.10011.0002

Spectroquant® Instruments

- Vis Spectrophotometer Prove 100 plus Cat.No. 1.73026.0001
- UV/Vis Spectrophotometer Prove 300 plus Cat. No. 1.73027.0001
- UV/Vis Spectrophotometer Prove 600 plus Cat.No. 1.73028.0001
- Colorimeter: Move DC Cat. No. 1.73635.0001

Protocols & Resources

- Selection of Application Notes
- Perchlorate in wastewater
- Surfactants (nonionic) in Extran[®] rinse solutions
- Glutardialdehyde in aqueous solutions

Are you working in these areas?

- dairy or infant formula
- vegetarian dishes
- meat products
- products with allergen free claims
- other food and beverage industries

Thorough disinfection control testing of filling and processing equipment must be conducted to ensure that no disinfectant residues remain and subsequently contaminate the final food or beverage products.





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