

Quality control, beyond the standard

Innovative products for
quality control in food and
beverage production



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Quality Control (QC) in food and beverage production is more important now than ever before. To be successful in today's modern environment, you need complete confidence in the products you release, in order to protect your consumer's health and maintain loyalty with your brand.

At Thermo Fisher Scientific, we help Quality Control teams to protect against customer complaints and operate more efficiently, by providing a range of laboratory products for fast, accurate and reliable data collection. This includes:

- A comprehensive portfolio for sample collection and preparation, chemical analysis and microbiological analysis
- Expertise in product applications
- Sales, delivery, service and support across many geographies





Sampling and Sample Preparation

Whether taking samples from the line to be analysed, or moving them within the laboratory, the requirements for sample integrity are the same.

To allow accurate data collection, samples must remain representative of the products within the process, in terms of both chemical and microbial stability. This ensures accurate data can be obtained and helps to enable correct process decisions to be made without repeat analysis, or delay.

In order to maintain consistency between laboratory staff members and accuracy of analysis, the sample preparation parameters are also required to be consistently controlled for the procedures to be effective.

At Thermo Fisher Scientific, we have developed a wide range of sample handling and preparation products which protect sample integrity, provide improved consistency and optimised laboratory efficiency.

Universal containers

Thermo Scientific™ Sterilin™ Dippas™ and Polypropylene Universal Containers ensure your process samples are protected and representative of source to enable accurate analysis.

- Full range of easy-to-use formats
- Leak-resistant closures
- Aseptically manufactured



Flip-top containers

Thermo Scientific™ Capitol Vial™ Flip-Top Containers provide an innovative solution for the economical storage and retention of process samples.

- Lock seal tab prevents spills and leaks
- Aseptic, airtight and leak resistant
- Shoulder-less, liner-less containers
- Available in a variety of colours or clear



Sample bottles

Thermo Scientific™ Nalgene™ bottles provide a safe, secure way to protect samples as they are taken from the line to the lab.

- Leakproof one-piece closure system
- Certified clean and ready-to-use
- Semi-rigid, translucent all-purpose bottle
- Designed for long-term, demanding lab use
- Comprehensive range of styles and formats to suit any application



Plastic labware

Thermo Scientific™ Nalgene™ Plastic Labware sets the standard for quality and superior performance for your day-to-day quality analyses with the highest quality materials for dependable performance.

Safer:

- Plastic labware won't shatter like glass
- Plastic labware is lighter and easier to handle
- No chipping or sharp edges with plastic labware

Smarter:

- Eliminate the expense of replacing broken glassware
- High-quality Nalgene labware is durable and long-lasting
- HDPE, LDPE and PP labware products are recyclable, unlike borosilicate glass



Transfer pipettes

Thermo Scientific™ Samco™ Transfer Pipettes offer a cost-effective solution for quick and accurate liquid transfer for a range of applications.

- Fast, accurate and easy liquid transfer
- Shatterproof, nontoxic polyethylene



Manual pipettes

A leader in pipetting technology; from the first variable volume micropipette to the first to offer an interlock Thermo Scientific™ ClipTip™ interface. Thermo Scientific manual pipetting systems such as the Finnpiquette F1 and F2 deliver unparalleled ergonomics, dependability and quality for consistently accurate and reliable results.

- Ergonomic design offering low attachment, ejection, and plunger forces
- Remarkably lightweight
- Adjustable comfort
- Proprietary soft-touch tip ejection
- Volume lock adjustment
- Lifetime warranty



Benchtop centrifuges

A wide array of Thermo Scientific™ centrifuges and their innovative rotors are available for all your processing needs, supporting labware from microtubes to large-capacity bottles – all designed to deliver outstanding performance spin after spin.

- Intuitive touchscreen interface simplifies everyday operation and improves status visibility
- Thermo Scientific™ Fiberlite™ rotors provide improved corrosion and fatigue resistance for outstanding durability
- Thermo Scientific™ Auto-Lock™ enables fast, simple and safe rotor exchange without the need for additional tools



Vacuum concentrators

For advanced analysis of dissolved solids for high throughput requirements, the Thermo Scientific™ Savant™ SpeedVac™ range of vacuum concentrators provides ease-of-use, accuracy and reliability:

- Ability to download live run data from a USB port helps ensure accurate and consistent data collection
- Up to 12 programmes (depending on model)
- Proven reliability with over 50 years of experience in vacuum concentrator technology

Upright refrigerators and freezers

Thermo Scientific™ TSG Series general-purpose laboratory refrigerators and freezers are designed with your needs in mind. The TSG Series is ideal for the demanding requirements of daily use. With state-of-the-art technology, the features bring benefit to any lab:

- Whisper-quiet refrigeration systems
- Low energy consumption
- Temperature, power failure and door ajar alarms
- Green, natural refrigerants
- 3 year warranty for parts and labour



Undercounter refrigerators

Powered by V-drive, the Thermo Scientific™ Undercounter Refrigerators TSX Series delivers low energy, decreased noise levels and improved performance and user experience. These undercounter refrigerators are quiet and feature an improved user interface, automated locking and increased storage capacity and reliability.

- Low energy usage
- Low noise
- High storage capacity
- Redundant cooling technology protects your storage while delivering 37% less energy, 20X less noise and twice the storage capacity
- Variable speed control using thermoelectric devices in place of compressors, provides ideal conditions for the most demanding applications





Chemical Analysis

Microbial analysis of sensitive food and beverage products is a key quality parameter to ensure the safety, quality and shelf-life once packaged. Your brand and your customers depend on the accuracy and reliability of the techniques and methods you use with this analysis.

To help you enable the correct quality decisions, we offer a range of innovative laboratory products and expertise which bring improved accuracy, confidence and efficiency throughout your microbial analysis workflow.



Benchtop pH meters (DO, ISE, conductivity)

Thermo Scientific™ Orion Versa Star Pro™ and Orion Star™ A Series Benchtop Meters are versatile, high-performance laboratory measurement systems. Delivering rich functionality and features, for fast, accurate and reliable sample analysis across a range of critical quality measurements; pH, ion concentration (ISE), conductivity, dissolved oxygen, salinity, resistivity and temperature.

- Accurate, consistent results – day after day – especially when used with Thermo Scientific™ Orion™ ROSS electrodes
- Easy-to-use features that maximise productivity and minimise training time
- Enhanced 2000 data point log with sample ID and user ID
- Durable construction for dependable use and long product life
- Modular meter designs for maximum configuration, flexibility and functionality
- 3-year meter replacement warranty

pH electrodes

Thermo Scientific™ Orion™ ROSS electrodes provide the optimum choice for superior stability, rapid response, accurate and reproducible pH measurements.

For more than 35 years, ROSS pH electrodes have been helping to provide accuracy, stability and rapid response times.

Compared to conventional electrodes, the proven ROSS reference system exhibits stability in measurements, faster response, greater accuracy and precision when measuring samples that vary in temperature, or when calibrating in buffers with temperatures that differ from the samples.



Portable meters

Thermo Scientific™ Orion Star™ A Portable Meters and Thermo Scientific™ Pocket Testers are user-friendly, rugged and waterproof for dependable performance inside or outside the lab.

- pH, conductivity and dissolved oxygen measurements are standard for Thermo Scientific™ Portable Meters
- Fast and reliable measurements
- Informative, easy-to-use graphic display with a multi-language interface and clear on-screen instructions, text prompts with menu specific function keys
- Date/time stamps with sample and user ID for reliable data logging of up to 1,000 points
- Waterproof IP67 meter housing
- 3-year meter replacement warranty

Expert pocket testers

On-the-go measurements of pH and temperature, or conductivity, TDS, salinity and temperature.



Turbidity meters



Turbidity is an important parameter for beverage quality. Thermo Scientific™ Orion™ AQUAfast™ AQ3010 Turbidity Meters help ensure fast, accurate readings.

- Easy to read results from the large, bright LCD display
- Simple calibration with step-by-step prompts
- Auto-ranging from 0 to 1000 NTUs
- Meets ISO7027 and offers consistent light source for greater accuracy
- No mixing or diluting with EPA-approved polymer bead primary standards for faster calibration
- Complete with accessories packaged in a field case for easy storage and transport



Auto-titrators

Thermo Scientific™ Orion Star™ Titrators are designed to increase your laboratory productivity by automating titrations.

Electrochemistry technology is integrated with a state-of-the-art reagent dispensing system to create modern, simplified automated titrators designed to make performing titrations easier, more reliable and more reproducible than manual titrations.

- Automate acid/base, redox and ion titrations for simple accuracy
- Offering easy-to-use navigation from setup to live titration analysis to data transfer to printer, computer or USB drive
- Showcase titrations, onscreen instructions and help menus on a large colour graphic touchscreen display
- Create and save up to ten user-defined methods
- Save up to 100 titration data sets with date/time stamp

Spectrophotometers

Thermo Scientific™ Orion™ AquaMate™ 8100 UV-Visible Spectrophotometer provides a simple, accurate method for quantitative analysis of critical quality analytes.

Built on the foundation of 60 years of spectroscopy experience, next generation Orion AquaMate Spectrophotometers combine exceptional performance with a contemporary design:

- Intuitive operating software, including performance verification testing designed to meet GLP and GMP standards
- 260 pre-programmed test methods, and flexibility to program your own custom methods
- 7-inch, high-resolution glove-friendly touchscreen interface



Calibration standards and solutions

pH buffers, storage solutions, cleaning solutions, kits and pH electrode filling solutions for every application.

All Thermo Scientific™ Orion™ pH Buffers and Standards are traceable to NIST reference materials providing increased accuracy. Available with a wide variety of sizes from 15ml single use pouches to large volume 19L cubitainers.

Thermo Scientific™ Orion™ Solutions, Standards and Buffers include:

- pH buffers, sensor maintenance solutions, and fill solutions
- ORP standards
- ISE calibration standards, ionic strength adjusters, reagents and fill solutions
- Conductivity standards
- Maintenance solutions

Refrigerated / Heated bath circulators

Designed for automated heating and cooling cycles in a range of analyses such as brix, rheology and viscosity measurement, forced haze analysis and accelerated shelf-life testing, the Thermo Scientific™ ARCTIC series refrigerated / heated bath circulators provide a safe, easy to use and energy efficient solution.

- Large work area enables high throughput and workflow efficiency
- Sophisticated digital control technology designed to ensure accuracy and reproducibility
- Drain port at the front for operator convenience
- The controller can be indexed 90°C for easier viewing



Chillers

For QC laboratories operating advanced analytical equipment, the range of Thermo Scientific™ ThermoFlex™ Recirculating Chillers provides a solution which is:

- Reliable, easy-to-use and maintain
- Quiet – promoting a safe and reduced stress environment
- Configurable with customer input from concept to design to meet specific application requirements



Microbiological Analysis

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To help you enable the correct quality decisions, we offer a range of innovative laboratory products and expertise which bring improved accuracy, confidence and efficiency throughout your microbial analysis workflow.

Water purification

The Thermo Scientific™ Barnstead™ Smart2Pure™ Pro system converts tap water into ASTM Type 1 and Type 2 water.

Purification systems exceed international standards ASTM Type1 and ISO 3696 Grade1, delivering 18.2 MΩ ultrapure water and 10MΩ Type II water to cover your laboratory needs.

- High purity water on demand
- Maximised life and performance of RO membrane
- Ensure the highest retention of endotoxins for up to a 2-year lifetime



Rockers, rotators and mixers



Robust for everyday use while offering accurate sample agitation for a range of applications. With a broad range of digital speed and time settings, samples will shake, mix, or pulse at the specified rate every time.

Accurate sample agitation parameters can be set, freeing capacity to complete other lab tasks, helping to bring increased efficiency to the lab.

The Thermo Scientific™ Digital Mini Rotator provides smooth and accurate orbital mixing of various lab vessels.

- Continuous operation or timer modes
- Speed range: 50 to 500rpm
- Maximum load: 4.5Kg (at 300rpm)
- Shakes up to 20 flasks at the same time



Hotplates and stirrers

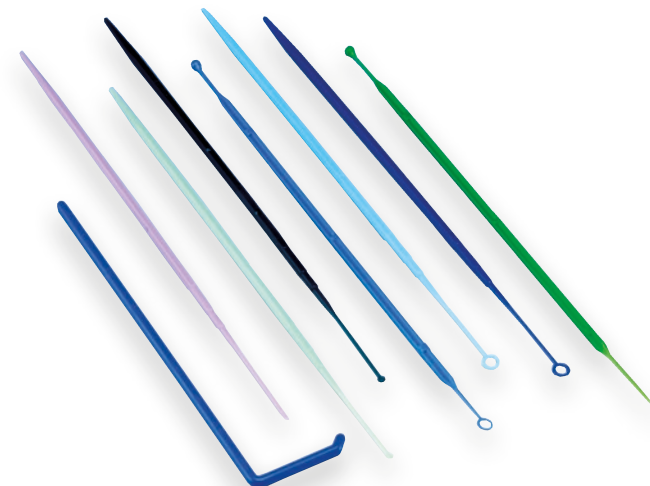
A robust portfolio of hotplates, stirrers, stirring hotplates and supporting accessories provide an impressive combination of superior performance, advanced safety and operational simplicity that will complete any food and beverage QC laboratory requirement.

Thermo Scientific™ Cimarec+™ Digital Stirring Hotplates are designed with precise stirring control, exceptional safety and temperature performance.

- HOT TOP warning system is designed to protect from accidental burns
- Raised display design protects electronics from spills
- Provides slow-speed stirring, consistent speed control, and strong magnetic coupling

Loops and spreaders

Providing innovative features to bring accuracy, precision and ease-of-use to your plating.



Petri dishes

Culture microorganisms on solid media using Thermo Scientific™ Sterilin™ Standard 90mm Petri Dishes. These shallow dishes maximise incubator space and feature a mirror finish that ensures high optical quality.



Water baths

Thermo Scientific™ Precision™ water baths have brought outstanding performance and reliability to laboratories worldwide. Now they are setting a new standard in laboratory water baths, with enhanced designs and added features to help maximise productivity. With their rugged construction and advanced microprocessor technology, Precision water baths are the smart choice for your QC lab:

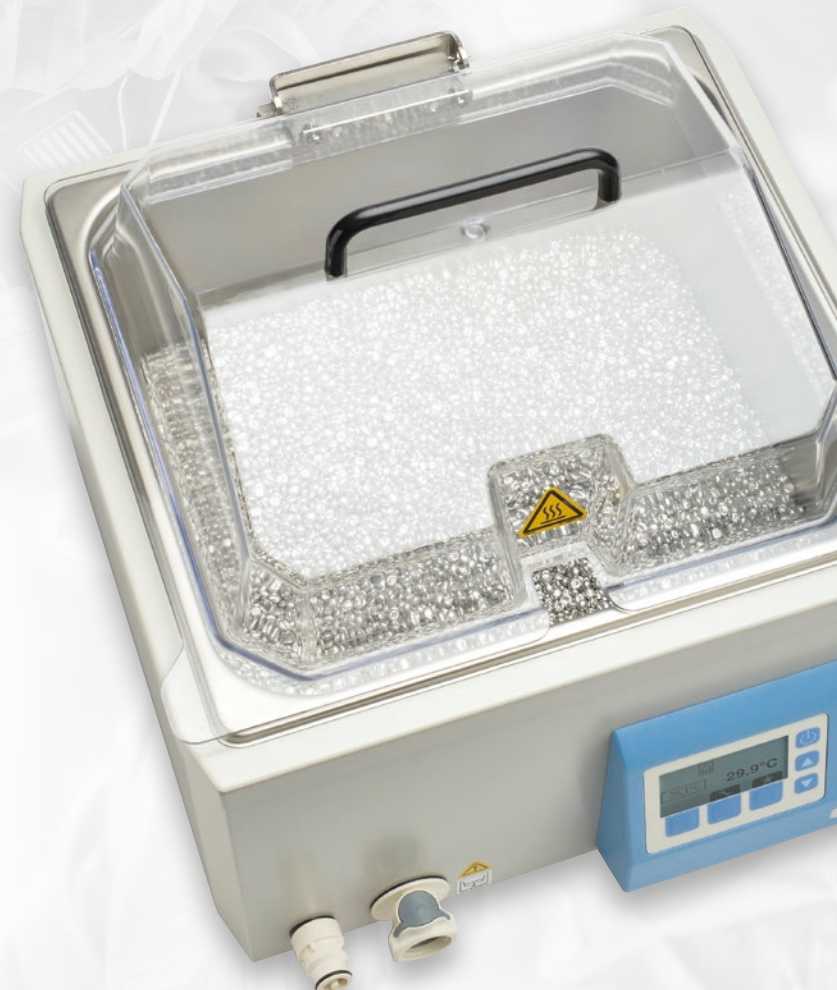
- Smaller footprint to free up valuable benchtop space
- Advanced microprocessor controller designed for extended functionality
- Protect your work with audible alarms
- Baths come with clear polycarbonate gable cover, diffuser tray, drain hose and rubber duck
- Four temperature pre-sets for commonly used settings

Thermo Scientific™ Precision™ Thermal Beads are small aluminium alloy beads that act as a thermal conductor. They are a great alternative to water in certain situations. Because of the size, shape and density of the beads, vessels of any size or shape can be accommodated without the need for racks.

- Improve lab cleanliness and hygiene – eliminate risks of spillage
- Easy to use and maintain

Thermo Scientific™ Precision™ Coliform Water Baths are designed specifically for faecal coliform determination.

- Advanced controller, featuring LCD readout for easy operation and monitoring
- Factory preset to 35.0°C, 41.5°C, 44.5°C and 45.5°C.





Filtration

Thermo Scientific™ Nalgene™ Sterile Analytical Filter Units and Thermo Scientific™ Nalgene™ Sterile Analytical Filter Funnels perform microbial assessments quickly and easily:

- Gamma-sterilised, individually wrapped
- Provides excellent recovery and growth of microorganisms
- Receiver is graduated from 20 to 150mL for easy reading of sample volume
- 0.2µm size is ideal for sterility tests
- 0.45µm size has black grid to facilitate colony counting

Biological safety cabinets

Thermo Scientific™ Biological Safety Cabinets offer a fully supported technical solution, to protect staff members and sample integrity.

- Designed to maximize sample protection and operator safety
- Thermo Scientific™ SmartFlow™ technology automatically balances inflow and downflow velocities
- Visible display of operation status for improved user confidence
- Extremely comfortable ergonomic design promotes safe working conditions
- Maximized energy efficiency due to dual DC motors



Microbiological incubators

Whether dealing with routine total viable counts (TVC), working with spoilage species, or with potentially pathogenic micro-organisms, the Thermo Scientific™ Heratherm™ Microbiological Incubators are designed to provide long-term performance with optimal conditions.

- Intelligent design for improved results
- Easy to use interface
- Rounded corners and removable shelf system for easy cleaning
- Exceptional data monitoring systems that provide the key to reliable results
- Independent sample temperature sensor, for GLP compliance on Advanced Protocol Security units
- Wide range of sizes from 18 litres to 750 litres
- Small footprint to capacity ratio
- Stackable design for 60L, 80L and 100L models
- Choices of gravity convection and dual or mechanical convection to address the specific requirements of the incubation
- 2-year warranty on parts and labour



Service and Support

Whether you require support for one instrument or a whole fleet, we provide superior services and support through our Unity Lab Services team that get keep you operating with maximum efficiency.

Full-service support includes:

- Instrument and equipment installation, repair, and technical support
- Service plans with 50% faster response time and 30% less downtime*
- Extended warranties
- Preventive maintenance
- Compliance and calibration services
- Parts, consumables, software, and accessories
- Asset and supply management

Accuracy, reliability and robustness of your quality data

With our knowledgeable employees and innovative, quality products we can help your Quality Control teams improve laboratory efficiency and enhance productivity.

In addition to laboratory products featured in this brochure, we also offer solutions in the following categories:

- Molecular instrumentation
- PCR technology for foodborne pathogen and quality indicator detection
- Traditional culture media
- Biochemical or immunological tests
- Chromatography and mass spectrometry products for food safety analysis
- GC-MS and LC-MS systems
- Laboratory Information Management Systems

Our comprehensive portfolio can provide you with complete end-to-end food analysis workflow solutions. Along with our technical expertise and educational resources, you can put your focus where it should be—bringing safe, stable, high quality foods to market.

For more information, please visit

[thermofisher.com/foodandbeverageqc](https://www.thermofisher.com/foodandbeverageqc)



 Learn more at **thermofisher.com/foodandbeverageqc**

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