

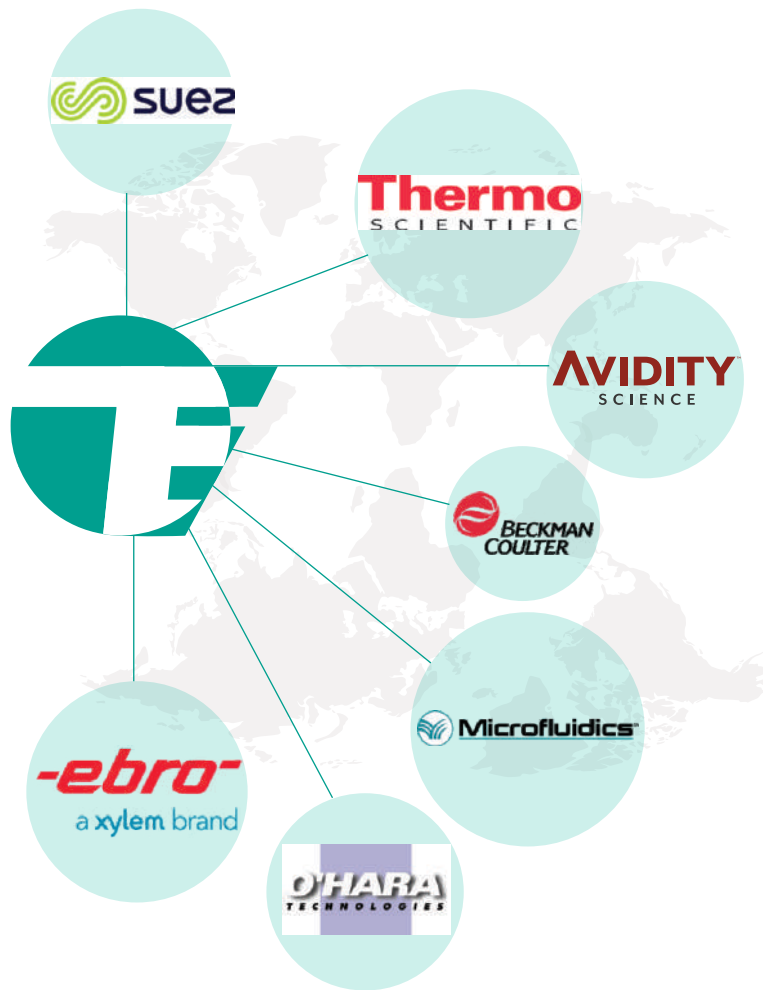


A Trusted  
Partner In the  
Field of  
Instrumentation  
and Process  
Equipment



**TRIDENT EQUIPMENTS PVT. LTD.**

# About Trident



Trident Equipments Pvt. Ltd. was incorporated in 1998 by a team of highly skilled professionals, having experience of more than two decades in the Analytical and Process Instrumentation, with an objective to cater to the growing needs of the industry with cutting edge technology products and robust service network.

Today, with diverse product portfolio under its belt, Trident enjoys the reputation of being a leading solution provider of scientific instruments & equipment used in process, quality control and research.

Trident is proud to be associated with the companies of global repute for bridging the gap between manufacturers and customers by engaging in the distribution of quality and innovative products in India for these principals in the elds of Analytical and Process Instrumentation

Trident Equipments, in a very short span has earned itself a good reputation of providing prompt and specialized service with strong technical support team that offers a range of services which go beyond just the marketing of products. These include: Application Support, Servicing and Calibration On-site Testing Services and Training.

The hallmark of the team is a hard-core commitment to customer support and prompt service. As on today, the company has established a pan-India network of its own ofces at major cities with highly qualied, dedicated sales and service professionals.

Our focus is on the individualized nature of our clients. We believe in providing complete customer satisfaction with a seamless experience through our products, services, knowledge and experience.



Analytical



Process

## Sievers TOC Analyzer Spectrum



### Water

- Diagnostics • Reclaim

### Pharmaceutical Water

Purified Water

- Water for Injection
- Cleaning Validation
- Diagnostics

### Drinking Water

EPA/State Compliance Monitoring

- Environmental
- Process Optimization
- Disinfection By-product Control

### and wastewater

- Environmental
- Municipal
- Wastewater

# M9..... the next generation of Sievers TOC Analysers



## M9 Laboratory Superior Productivity

sample vials and sipper tubes or connect to the Sievers Autosampler to automate high-volume sample analysis.

Well suited to analyze a variety of sample matrices and concentrations.

Offers a small profile to efficiently use valuable bench space

Optional Stage 1 conductivity capability for simultaneous testing of TOC and conductivity.

Optional Turbo mode for rapid analysis even in lab

Doesn't require utilities or carrier gas



## M9 Online Uninterrupted Analysis

Continuous monitoring with the ability to easily introduce discrete grab samples and standards.

Wall-mounted with an IP-45 rated enclosure to withstand demanding process water environments.

Broad, linear TOC range allows excellent low-level sensitivity for ultrapure water analysis and high-level capability for cleaning validation or other challenging water samples.

Doesn't require utilities or carrier gas



## M9 Portable genuine Versatility

Lightweight, IP-21 rated, compact design can be hand-carried for TOC analysis anywhere

Measures discrete grab samples, automated analysis with the optional Sievers Autosampler, or On-Line mode

Designed for at-line cleaning validation Applications

Optional Stage 1 conductivity capability for simultaneous testing of TOC and conductivity.

Optional Turbo mode for rapid analysis even in lab

Doesn't require utilities or carrier gas

## M9 TOC Analyzers meet the needs of these industries:

- PW, WFI, Cleaning Validation

### Microelectronics applications

- UPW Loop, UPW Make-up
- Diagnostics, Reclaim

## The M9 TOC Analyzers are engineered to meet stringent regulatory requirements:

- US Pharmacopeia (USP) <643> and <645>
- European Pharmacopeia (EP) 2.2.44 Total Organic Carbon
- Indian Pharmacopeia (IP) 2.4.30
- Chinese Pharmacopeia (CP) Appendix VIII R
- Japanese Pharmacopeia (JP16) 2.59 monographs

# Sievers M500 On-Line Total Organic Carbon (TOC) Analyzer

The Sievers M500 On-Line Total Organic Carbon (TOC) Analyzer provides continuous monitoring of organics in ultrapure water for pharmaceutical and power applications.

The reagentless M500 provides superior analytical accuracy and performance found in all Sievers TOC Analyzers, and offers a range of options to meet specific customer needs



## Features & Benefits

Sievers Membrane conduct-metric design eliminates false positive and false negative readings.

Accurate recovery of all classes of organics

Ease of use

Exceptionally easy to install, operate and maintain.

Large color touch screen display, intuitive menu interface

Advanced auto zero feature for improved low level performance

## Pharmaceutical Applications

Designed to deliver science based risk management capability

Ability to be fully validatable to the standards of ICHQ2® enables it to be instrument of record for Real time Testing

Compliance with USP<643>, European Pharmacopeia EP 2.2.22, IP 2.4.30, JP16 monographs for purified water and water for injection

## Upgrade Options

Can be configured or upgraded with a variety of hardware and software options

Super iOS 4-port sampler automates grab samples to increase efficiency

Conductivity option as per USP <645>

Automated USP system suitability, linear functionality

Dataguard for facilitating 21CFR Part 11 compliance

Optional Dashshare 500 to view, share and create reports for encrypted data USB output



# Sievers 860

High performance at an affordable cost for general pharmaceutical water testing requirements. The Sievers 860 Laboratory Total Organic Carbon (TOC) Analyzer was designed specifically for pharmaceutical applications.

Based on the Sievers technology used in the best-selling M9 Laboratory model, the Sievers 860 provides excellent analytical performance at an affordable price. It offers a streamlined feature set designed to meet general pharmaceutical water testing requirements.

**Proven Sievers Technology** — Uses the proven Sievers Membrane Conductometric TOC technology that provides unsurpassed analytical performance and reliability.

**Regulatory Compliance** — The Sievers 860 complies with major global pharmacopeia requirements.

**Affordability** — The Sievers 860's streamlined feature set was carefully designed to reduce costs, while still offering high performance for select pharmaceutical applications.

**Easy Operation** — The Sievers 860 can operate standalone via the instrument's keypad or with a PC

**Best-in-Class Software** — DataPlus enables easy analyzer operation, data management, water quality trending, document creation, and regulatory compliance.

**Low Maintenance** — Features one-year calibration stability and needs just a few hours of annual preventive maintenance.



## Check point

### Online/Portable TOC Sensor

Measure low-level total organic carbon (TOC) anywhere, anytime with the new CheckPoint Pharma and Check Point® On-Line/Portable Total Organic Carbon (TOC) sensors. Affordable, versatile, and portable, the CheckPoint sensors can be used online for continuous monitoring or hand-carried to any point in a water system for rapid diagnostic sampling and troubleshooting.

#### key benets

**Cost Effective Direct Conductometric Principle.** They provide a reliable low-cost TOC approach useful for pharmaceutical Purified Water (PW) and Water for Injection (WFI) and semiconductor ultrapure water (UPW) monitoring applications.

**Rapid Analysis** Featuring a default measurement every 15 seconds

**Versatility and Convenience** The sensors can be used for continuous on-line monitoring, rapid online monitoring, or grab sampling.

**Easy to Use with Low Maintenance** The reagentless CheckPoints are easy to operate and need minimal maintenance. Calibration is typically stable for six months.



# Sievers M5310 C TOC Analyzers



## M5310 C Online Uninterrupted Analysis

Continuous monitoring with the ability to easily introduce discrete grab samples and standards.

Compliant with USEPA Approved Analytical Method (SM 5310C and USEPA 415.3)

Equipped with standard internal Inorganic Carbon

Removal (ICR) module for improved accuracy when analyzing water high in inorganic carbon (IC)

Autoreagent mode for automatic calculation and implementation of optimal reagent flow rates

Broad analytical range from 4 ppb to 50 ppm

Twice-as-fast as Sievers' last generation TOC Analyzers, now with two-minute TOC analysis

Improved user-friendly, dashboard-style, touchscreen interface for simple operation and data review

Secured database structure for improved data searches and queries

Two-Stream Inlet configuration for the M5310C On-Line Analyzer

Online and portable models now with IP-45 and IP-21 enclosure ratings, respectively

Easy data communications — export or collect data via USB, 4-20 mA, or Modbus TCP/IP outputs

Integrated On-Line Sampler (IOS) system allows testing of external samples and standards without removing the analyzer from the continuous water source



## InnovOx ES Laboratory

Patented supercritical water oxidation (SCWO) for superior TOC recovery and high reliability

Compliant with USEPA Approved Analytical Method (USEPA 415.1, 415.3 and 9060A, ASTM D5173, ISO 8245, etc)

Versatile measurement modes include TOC (TC-IC) or NPOC

Handles tough TOC samples, like cellulose and brine

Autosampler with stirring and rinse station options for high volume laboratory applications

Wide dynamic range up to 50,000 ppm TOC

Reliable NDIR detection technology with no moving parts

Air Filter to purify ambient air and pressurize it sufficiently for use as a sparge and carrier gas and avoid the use of external carrier gas cylinders.

Improved user-friendly, dashboard-style, touchscreen interface for simple operation and data review

Easy data communications — export or collect data via USB, 4-20 mA, or Modbus TCP/IP outputs

### M5310 C TOC Analyzers meet the needs of these industries:

#### Pharmaceutical applications:

PW, WFI

#### Food Applications:

Drinking water, Distilled water

### InnovOx ES TOC Analyzers meet the needs of these industries:

Effluent treatment plant

#### Regulatory requirements compliance:

Maharashtra Pollution Control Board (MPCB),  
Common Pollution Control Board (CPCB) for COD, BOD & TOC



## Innovox Online TOC Analyzer

Patented supercritical water oxidation (SCWO) for superior TOC recovery and high reliability

Compliant with USEPA Approved Analytical Method (USEPA 415.1, 415.3 and 9060A, ASTM D5173, ISO 8245, etc)

Versatile measurement modes include TOC (TC-IC) or NPOC

Wide dynamic range of 50 ppb to 50,000 ppm TOC

Robust sample handling options for reliable operation even with high suspended solids

Reliable NDIR detection technology with no moving parts

High temperature option allows measurement of samples up to 85°C

Multi-stream capability. Either 2-stream (standard) or 5-stream (optional) configurations

Handles tough TOC samples, like cellulose and brine

### The M5310 C Analyzers are engineered to meet stringent regulatory requirements:

- US Pharmacopeia (USP) <643> and <645>
- European Pharmacopeia (EP) 2.2.44 Total Organic Carbon
- Indian Pharmacopeia (IP) 2.4.30
- Chinese Pharmacopeia (CP) Appendix VIII R
- Japanese Pharmacopeia (JP16) 2.59 monographs

# Ozonia - Electrolytic Ozone Generator

## Ozonia® Membrel® MkIV

The ozonia® membrel® is the latest generation of electrolytic ozone generators which uses solid polymer electrolyte and state-of-the-art electronics for ozone production. The ozonia® membrel® MkIV electrolytic process is a unique technology which produces ozone from water instead of gaseous air or oxygen. The most effective way to disinfect ultrapure water loops in industrial and pharmaceutical applications.

- Pure & ultrapure water
- Puried & highly-puried water
- Water for injection

### Features

- Electrolytic ozone production
- Easily upgradeable from 3g O<sub>3</sub>/h to 9g O<sub>3</sub>/h
- User-friendly with individual cell Controls
- Remote control capabilities
- No ionic contamination
- Easily installed, maintaining System integrity

Model	Ozone production (g/h (approx.))
ozonia® membrel® MkIV/1	3
ozonia® membrel® MkIV/2	6
ozonia® membrel® MkIV/3	9

### Applications

- Pharmaceutical & cosmetics
- Bottling water plants
- Cooling towers
- Aquaculture





- pH • ISE • Dissolved Oxygen • Conductivity • Colorimetry • Turbidity • Spectrophotometry • Titrimetry

With over 50 years of innovation and proven performance, Thermo Scientific Orion products provide you a full range of laboratory and on-line water analysis instruments serving markets such as environmental, water and wastewater, power, food and beverage, pharmaceutical and general laboratory.

In this catalog, you will find a comprehensive selection of meters, analyzers, electrodes and solutions that are recognized worldwide and will provide you the security that your quality standards are met.



### Versatility

The meter for today's needs and tomorrow's challenges. The Expandable modular Orion Versa Star design gives you the flexibility you need.



### Durability

Now more than ever, the Orion line meets requirements for field applications. The Star A meter kits include robust cases and complete accessories.

WE HAVE THE  
**PERFECT  
METER**  
FOR YOUR  
APPLICATION



### Performance

Now combine Orion Ross performance with built-in temperature measurement in one premium glass body electrode.

# Orion Benchtop Meters series

## Premium Versa Star Series

Adjustable Color Graphic LCD

Step by step calibration and guides setup instructions

Four Customizable channels with modules with 10 methods per module

Measurement stability indicator and selectable read modes

Datalog reliability collects and data/time stamps up to 2000 measurements sets with optional sample ID and user ID

Calibration log stores 30 most recent calibrations per parameter with viewable graph for multipoint pH and ISE calibrations

Non-volatile memory preserves data and settings, even in the event of power loss

System access feature for administrator and up to 10 user accounts with custom access levels to meter functions including data/time, setup, data and calibration

Purchase Thermo Scientific™ Orion™ Navigator Pro™ computer software for computer control of meter functions and electronic records generation

Measured parameters:

pH or pH/LogR Modules One or two pH/ISE Modules Conductivity Module Optical/Polarographic DO Module pH and Conductivity Module pH/ISE. Conductivity and DO Modules

## Advanced Dual Star Series

Informative, easy to read backlit graphic display

Clear Onscreen Step by Step calibration and guides setup instructions

Measurement stability indicator and selectable read modes

Dual channel Options with 10 methods per channel

Datalog reliability collects and data/time stamps up to 2000 measurements sets with optional sample ID and user ID Measured Parameters

Calibration Log stores ten most recent calibrations

Non Volatile meter memory ensures your data and settings are protected, even with loss of power

Star A211 pH Meter  
Star A214 pH/ISE Meter  
Or Dual Star pH/ISE Meter  
Star A212 Conductivity Meter  
Star A213 Optical/Polarographic DO Meter  
Star A215 pH and Conductivity Meter  
Star A216 pH and DO Meter

## Basic Series

Single parameter meter

Simplified, easy-to-use display

User-friendly operation with basic calibration text prompts

Select from auto or manual buffer recognition mode

Auto ranging conductivity measurement

Combined auto and manual provision for Temperature, salinity and barometric pressure compensation

Non-volatile meter memory preserves data and settings even in the event of power loss

Provision for electrode arm and holder ensures easy maintenance and placement into samples

Star A111 pH meter  
Star A112 Conductivity meter  
Star A113 DO meter



# Orion Benchtop Meters series

## Colorimetry, Turbidity and UV-Vis Spectrophotometry –The Optical Measurements Accurate Results, Within Your Reach

We've got you covered

Colorimeters and Turbidity meters both employ optical measurements. Optical measurements use light to quantify the amount of a colored or cloudy sample. Colorimeters are used to measure the concentration of a sample component. Turbidity meters can determine how cloudy the sample is and report a number value for the turbidity.



### Turbidity Meter

The AQ4500 turbidimeter has dual source LED that allows readings that comply with reporting requirements for both EPA and ISO 7027 methodologies

Nephelometric and ratiometric measurements with autoranging

IR mode options for measurement of wines and colored samples

Data log capacity of up to 100 data points

Reading ranges vary from 0 to 4000 with appropriate units based on test selected

Includes turbidity standards kit, rugged carrying case, and replacement vials

The AQ4500 is truly IP67 waterproof to a depth of 3 meters



### Colorimeter

Portable design with uncompromised performances

The AQ4000 colorimeter stores up to 189 pre-programmed methods and can record 100 data points in the field with a time and date stamp. Download later to a printer or computer in the lab.

Auto-ID: Automatically identifies the species to be measured, selects the method and the wavelength plus initiates the method– no buttons to push

Auto-Test Ampoules: Pre-measured liquid reagent ampoules are specially designed to work with the AQ4000



### Spectrophotometer

Spectrophotometers that meet your requirements – choose the AquaMate 8000 UV-Vis or AquaMate 7000 Vis

Simple and efficient sample analysis using over 260 preprogrammed methods for common reagent chemistries

One-point calibration adjustment feature ensures the highest accuracy from preprogrammed methods

User customizable methods for absorbance, % transmittance and concentration testing

Performance verification tests ensure wavelength accuracy and instrument functionality

# Thermo Scientific Orion Star T900 Series Titrators

## Potentiometric titrators for performing automated pH, redox, or ion titrations

### Thermo Scientific™ Orion Star™ T900 series titrators are designed to:

Increase laboratory productivity by automating titrations

Offer easy-to-use navigation from setup to live titration analysis to data transfer

Showcase onscreen instructions, help menus and titrations on large color graphic touchscreen

Create and save up to ten custom user-defined methods or use preprogrammed protocols

Large, easy-to-view, lab glove compatible touchscreen display with onscreen instructions and help menus enables fast, easy setup and operation

Customizable methods save electrode, titrant and sample titration settings so routine procedures can be repeated without additional setup or pre-work and methods can be shared among titrators using a USB flash drive.

Automated titrant delivery system with high-accuracy burette and dispenser provides consistent results and automatic results calculations simplifies analysis and reduces computational errors.

Internal data storage maintains a history of sample titrations, titrant standardizations, electrode calibrations and direct measurements all with date and time stamp-to preserve critical data and facilitate easy data transfer to an external device.



# Orion Star T900 Series Laboratory Titrator Family

## Orion Star T910 pH Titrator

Titrator for dedicated acid-base titrations including titratable acidity of juices and wines, acidity of food products, alkalinity of waters, acidity and alkalinity of consumer products, total acid number (TAN) and total base number (TBN).

Titration techniques include equivalence point titrations and preset pH endpoint titrations for versatile sample analysis.

Pair the titrator option with any of our premium ROSS pH electrodes or select one of the preconfigured titrator and electrode kits

The 8102BNUWP ROSS Ultra pH electrode and 927007MD stainless steel ATC temperature probe are ideal for most standard pH titrations including preset endpoint titrations that include temperature.

The 8172BNWP ROSS Sure-Flow pH electrode is designed for challenging samples that can clog standard pH electrodes or that require a fast-owing sleeve-type junction.

Available pH titrators START9100, START9101, START9102

## Orion Star T920 Redox Titrator

Titrator for dedicated redox titrations including sulfoxide/SO<sub>2</sub> and reducing sugar in juice and wine, ascorbic acid (vitamin C) and peroxide value in food products, dissolved oxygen in wastewater by Winkler titration and organic matter in soil.

Titration techniques include equivalence point titrations and preset mV endpoint titrations for versatile sample analysis.

Pair the titrator option with any of our premium Orion redox electrodes or select our preconfigured titrator and electrode kit for a bundled discount.

The 9778BNWP redox electrode is ideal for most standard redox titrations with its robust glass body for chemical resistance in a variety of samples.

Available Redox Titrators START9200, START9201

## Orion Star T930 Ion Titrator

Titrator for dedicated ion concentration titrations including salt in food products, calcium in juice and milk, total hardness of drinking water and wastewater, chloride in drinking water and wastewater, ammonia and Total Kjeldahl Nitrogen (TKN) of wastewater and surfactants in consumer products.

Titration techniques include equivalence point titrations and preset mV endpoint titrations plus multiple known addition (MKA) mode.

Using MKA mode, the titrator performs an automated calibration and calculation of sample concentration by adding aliquots of standard to sample, removing the need for a separate calibration and minimizing matrix effects.

Pair the titrator option with any of our premium Orion ion selective electrodes or select preconfigured titrator and electrode kits.

Available Ion titrators START9300, START9301

## Orion Star T940 All-in-One Titrator

Titrator for exible pH, redox and ion concentration titrations including equivalence point titrations, preset pH or mV endpoint titrations plus multiple known addition (MKA) mode for automated known addition of various ions

Pair the titrator option with any of our premium ROSS pH electrodes or Orion redox and ion selective electrodes or select one of the preconfigured titrator and electrode kits.

Available All-in-One Titrators START9400, START9401, START9402



## Integrated Laboratory Water Purification System

### Cascada Lab Water systems

provide optimum water quality to support diverse laboratory needs.

### With potable water as the feed

Cascada system enables laboratories to achieve the highest purity water.

### Pall pretreatment & Two stage RO

ensures consistent water quality.

### Smart user interface

helps customer to take informed decision on consumable replacement.

## PALL PRETREATMENT & TWO STAGE RO

Cascada I	Cascad II I	Cascada III I
Ideal for type I application	Optimum water quality to support all laboratory needs	Tap to ultrapure
Feed water dm/RO/w/distilled	7 Purification steps integrated in single unit	Pall pretreatment unit
Application specic consumables	Standard unit – Customized cnguration	Consistent water quality

## Cascada Double Pass RO



- Eliminates the need for softener
- Provides consistent permeate water in varying feed water condition
- Superior permeate water quality improves the life expectancy of further purification packs
- Hence considerable saving on cost of ownership

Feed Water Conductivity	Single Stage RO Permeate	Double Pass RO Permeate
1500	75	3.75
1200	60	3
1000	50	2.5



## BECKMAN COULTER LS 13 320 XR Particle Size Analyzer

### For big improvements that help you spot small differences

The LS 13 320 XR offers best-in-class particle size distribution data from advanced PIDS technology, which enables high-resolution measurements and an expanded dynamic range. Like the LS 13 320, the XR particle size analyzer provides fast, accurate results, and helps you streamline workflows to optimize efficiency. Some big improvements help you reliably spot small differences that can have a huge impact on your particle analysis data.

### Key Features

Direct measurement range from 10 nm – 3,500 µm

Automatically highlights pass/fail results for faster quality control

Enhanced software that simplifies method creation for standardized measurements

New control standards to adequately verify instrument/module performance

Fluid Compatibility: Emulsions, Suspensions, Powders

### Features (Spot Small Differences)

Laser diffraction plus advanced Polarization Intensity Differential Scattering (PIDS) technology enable high-resolution measurement & reporting of real data down to 10 nm

Provides accurate, reliable detection of multiple particle sizes in a single sample

### Easy-To-Use Software

ADAPT Software features automatic pass/fail check

Pre-configured methods deliver results with 3 clicks or less

Simplifies analyzer operation by experts & novice users alike

1-click overlay with historical data

Intuitive user diagnostics keep you informed during sampling

Simplified method creation for standardized measurements

### ADAPT Software enables 21 CFR Part 11

Customizable security system to meet diverse needs

Choose from 4 security levels

High-security configuration supports 21 CFR Part 11

### PIDS Technology\* for Direct Detection of 10 nm Particles

3 light wavelengths (450, 600, & 900 nm) irradiate samples with vertical & horizontal polarized light

Analyzer measures scattered light from samples over a range of angles

Differences between horizontally & vertically radiated light for each wavelength yield high-resolution particle size distribution data



Microfluidics is the high Pressure Homogenizer manufacturer that consistently innovates superior technologies to achieve unrivalled results in uniform nanoemulsions, cell disruption and uniform particle size reduction with seamless scale-up and unparalleled repeatability.



**LM10**

## **Digitally Controlled Lab Unit for Small Sample Material Processing**

Operated at Pressure upto 23,000PSI

Requires a minimum sample size of 14ml

Temperature control through cooling coil and cooling batch

2 modes of operation for various compressor sizes

Easily autoclavable

Dependable Process Performance with Maintenance reminder and operator alerts

Field upgradable firmware



**LM20**

## **Electrically Powered Lab Unit for Small Sample Processing**

Operated at Pressure upto 30,000psi

Requires a minimum samples size of 14ml

Suitable for laboratory and benchtop applications

Diamond interaction chamber

Digital Pressure Control

Integrated Stroke Counter with maintenance reminder

Dependable Process Performance with Maintenance reminder and operator alerts

Field upgradable firmware



**M110P**

## **A "Plug and Play" Electric Benchtop Laboratory Homogenizer For continuous High Shear Fluid Processing**

300 ml glass feed reservoir

Diamond interaction chamber

Ceramic (Zirconia) plunger

Stainless steel enclosure

Electric/hydraulic drive method

Mechanical product pressure gauge



**LV1**

## **LV1 Low Volume Microfluidizer® Homogenizer High Shear Fluid Processor for the Smallest Samples**

Ceramic interaction chamber

Can Process minimum samples size of 1ml

Stainless steel enclosure

Electric/hydraulic drive method

10 ml syringe-type feed and collector reservoirs

# Pilot Scale Homogenizers

**Reduce Time to Market with Linear Scale-up**

## Pilot Scale M110EH

**Available in basic, enhanced and aseptic models for various applications**

Handles minimum sample sizes as small as 120 ml

Achieves processing pressures up to 2068 bar (30,000 psi)

Produces flow rates up to 330ml/minute at 2068 bar (30,000 psi)

Ceramic (Zirconia) plunger for extended seal life

On-board heat exchanger for consistent discharge product temperature

Patented, wear-resistant diamond interaction chamber — no moving parts

Designed for Clean-in-Place with no disassembly required

Stainless steel enclosure

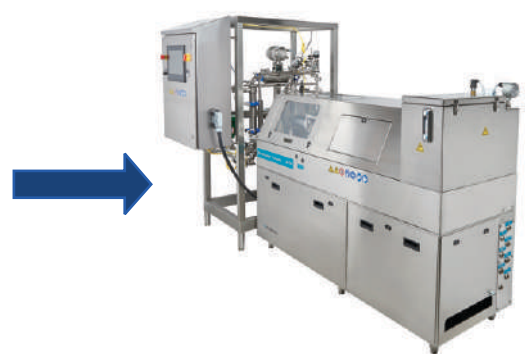
Electric hydraulic power unit



**M110P**



**M110EH**



**M700 Series**

**SCALE - UP IS GUARANTEED FROM LAB THROUGH PRODUCTION**

O'Hara designs and fabricates a broad product line of pharmaceutical, nutraceutical and confectionary equipment for coating, mixing, blending, granulating and drying. The product range provides proven solutions through all capacity requirements - from small scale portable laboratory and R&D models through to high-volume continuous systems.



### Labcoat™ Tablet Coating Systems (0.4kg to 10kgs)

Consists of multi-pan laboratory coating systems with interchangeable pans

Built-in peristaltic pump

Miniaturized anti-bearding spray nozzle

4" (100 mm) diameter exhaust connection

Integrated high efficiency exhaust filter

Siemens colour touch screen & PLC control

Emergency stop button

Solvent capability optional

Solution flow measuring balance optional

Compact and self-contained design for exhibility and mobility

Automatic supply and exhaust blowers with built-in high efficiency exhaust filtration

Designed to handle the smallest R&D batches



### Fastcoat™ Production Tablet Coating Systems (30Kg-500Kg)

Consists of Interchangeable Pans

Remote air handling unit with dehumidification and HEPA filtration

Additional features such as pre-heat and humidification

Anti-bearding spray nozzles

Professional Coating Arm (PCA)

Aqueous and solvent designs

Fully perforated drum

Automated and manual controls

User friendly operator panel

Reverse unloading system

Turndown kit available for reduced batch sizes

Wash-in-place system available

21 CFR Part 11 compliance available

Easy coating scale-up from O'Hara Labcoat™

Proven reliability and design



### Fastcoat™ Continuous Tablet Coating Systems (75Kg - 1200 Kg)

Innovative Continuous Coating System

Variable tablet throughput rates

Zero Waste start-up and shut-down systems

Automated bed tilting

Automatically adjustable tablet bed depth via patented weir system

Precision airflow balancing system

21 CFR Part 11 compliance

O'Hara PCA-Block style manifold design with anti-bearding spray nozzles

Precision sanitary lobe solution pumps

316 L product contact surfaces

PCS-7 DCS control available

Solvent and aqueous design available  
Material handling options available



# Data Logging Solution

## Data Logging Solution for Thermal Validation/ Cold Chain Monitoring/Facility Monitoring



### Operation and Process qualification

Highly accurate temperature, pressure, humidity and conductivity data loggers for thermal validation processes

Wide range of probe types and configurations

Wireless data loggers for real time monitoring

Data loggers for low space



### Routine control / Mapping

Highly accurate temperature, pressure, humidity and conductivity data loggers for thermal process control

Electronic Bowie&Dick-Test according to ISO 17665 and EN 285 / EN 13060

Data loggers for low space

Data loggers for regular process controls



### Room Monitoring and Process control

Highly accurate temperature, pressure and humidity data loggers

Standard temperature and humidity data loggers with automatic PDF report generation

Wireless system to monitor temperature and humidity

Multichannel Thermo Couple temperature data loggers

## Application:

### Pharmaceutical

- Steam-, H<sub>2</sub>O<sub>2</sub> and EtO- Sterilization
- Washer disinfectors
- Depyrogenation / heat tunnel
- Lyophilization
- Incubators
- Refrigerators / Freezers / Cooling Rooms
- Climatic Test Chambers / Stability Chambers

### Medical

- Steam Sterilization
- Washer disinfectors / bedpan washers
- H<sub>2</sub>O<sub>2</sub>-, LTSF- and EtO- Sterilization
- Depyrogenation / heat tunnel
- Incubators
- Refrigerators / Freezers / Cooling Rooms
- Stability Chambers

### Food

- Autoclaves / Sterilizers / Pasteurization Processes
- Continuous Fryers
- Lyophilization
- Hydrostatic Retorts
- Refrigerators / Freezers / Cooling Rooms
- Smokehouse
- Cooker / Cooler (Reel and Spiral)

### Customer Support Includes:

- On-site support across India
- Technical and application support by experienced specialists
- Calibration and validation support with traceable standards
- Installation, preventive maintenance and repairs on demand
- Remote support via telephone, email and internet access
- Qualified engineers/ technicians trained and certified by our principals periodically are spread across the country
- Regional offices are equipped with critical spares to address emergencies and ensure maximum uptime of the equipment

### Branch offices:

Pune  
Ahmedabad  
Hyderabad  
Bengaluru  
Delhi  
Kolkata  
Visakhapatnam  
Chennai

**Head office: Mumbai**  
**Trident Equipments Pvt Ltd.**

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**TRIDENT EQUIPMENTS PVT. LTD.**