

Elite Pure

• PRODUCT SPECIFICATIONS

18.2

MΩ·cm Resistivity

<5

ppbC TOC

DI

Deionization

<0.001

EU/ml Endotoxin (with biofilter)

0.055

μS/cm Min Conductivity @ 25°C

ISO 3696

CLSI

EP

USP

ASTM

ULTRAPURE WATER SYSTEM
FOR LABORATORY EXCELLENCE



Elite Pure | Advanced Ultrapure Water System

What is Ultrapure Water?

Ultrapure water is obtained by purifying tap water to **98%** using a **reverse osmosis system**, then reducing the ion level with deionization systems to achieve **0.055 $\mu\text{S}/\text{cm}$** conductivity. The water has the lowest possible microbiological, endotoxin, and chemical values, maintained through internal circulation at **18.2 $\text{M}\Omega\cdot\text{cm}$** resistivity.

Why is it Important?

Critical for the reliability of analyses, especially in state-of-the-art instruments such as **HPLC, LC, and LCMS**. Prevents waterborne concentration interference in analytical chemistry applications and ensures reproducible results in demanding laboratory environments.

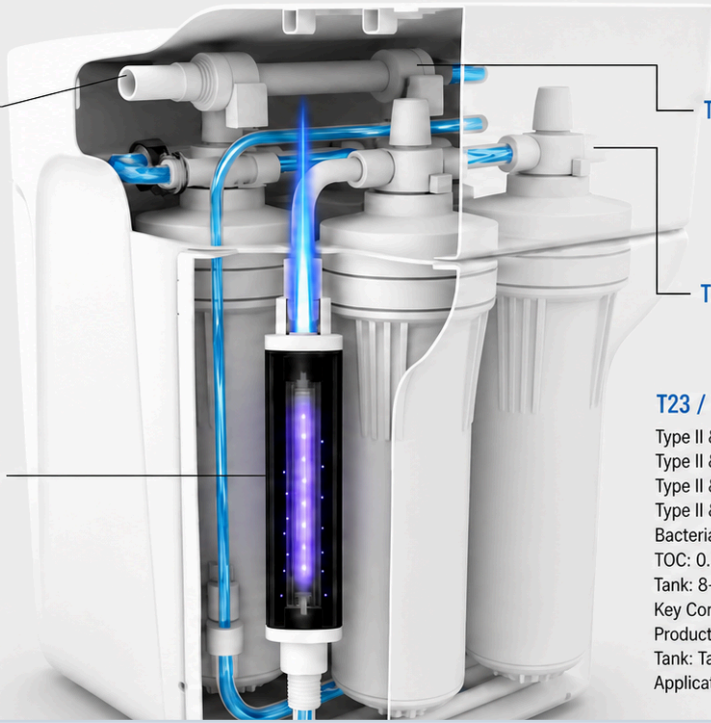
Key Features

-  High Purity 18.2 $\text{M}\Omega\cdot\text{cm}$
 -  UV Sterilization
 -  Multi-Standard Compliance
-  Low TOC <5 ppbC
 -  Real-Time Monitor
 -  Advanced DI Technology

 Elite Pure
Ultrapure Water Systems

T13 / T13bio

-  Type I & Type III
-  Resistivity: 400 ppm^2
-  Bacteria: 10mm
-  Filter: 3–500 lift
-  Production Capacity: 10m³/day
-  Tank: 200 Tam



T13 / T13bio
Type I & Type III

T13 TOC / T13 TOCPLUS
Filter Capacity:
Resistivity: 100 ppm^2
TOC: 0.52 co
Bacteria: 10mm
Production Capacity:
Filter 3–3001/Pa
Production Capacity: 10na
Tank: 200 Tam

T13-DI / T13-Bio-DI

T23-DI / T23-Bio-DI

T23 / T23bio
Type II & Type III:
Type II & Type III, 10lta
Type II & Type III
Type II & Type III
Bacteria: 1.00%
TOC: 0.30%
Tank: 8–10 filanc
Key Component
Production Capacity:
Tank: Tann Hiateror,
Application

Standards Compliance

- USP
- EP
- ASTM D1193
- CLSI
- ISO 3696
- NCCLS
- CAP



Water Quality Standards Compliance

Elite Pure Measured Performance vs Standards

Parameter	Measured	CLSI CLRW	USP Purified	EP Purified
Conductivity (µS/cm @ 25°C)	down to 0.055	<0.1	<1.3	<5.1
TOC (ppb C)	2 – 4	<500	<500	<500
Bacteria (CFU/ml)	<0.001*	<10	<10	<100
Resistivity (MΩ·cm @ 25°C) * With point-of-use filter fitted	up to 18.2	—	—	—

ASTM D1193 Standards

Parameter	Type I	Type II	Type III	Type IV
Electric conductivity (µS/cm)	<0.055	<1	<0.25	<5
Electric Resistivity (MΩ·cm)	>18.2	>1	>4	—
TOC (ppb)	<50	<50	<200	—
Sodium (ppb)	<1	<5	<10	—
Silica (ppb)	<3	<3	<500	—
Chloride (ppb)	<1	<5	<10	—

CLSI Standards

Parameter	Type I (Reagent)	Type II (Analytical)	Type III (Osmotized)
Bacteria (cfu/ml)	<1	<100	<1000
Resistivity (MΩ·cm @ 25°C)	>18	>1	>0.05
Silica (ppb)	<10	<100	<1000
TOC (ppb)	<10	<50	<200
Pyrogens (EU/ml)	<0.03	—	—

Additional Compliance Standards

NCCLS (1998)

National Committee for Clinical Laboratory Standards

ISO 3696:1987

International Organization for Standardization

TSE ENISO 3696:1987

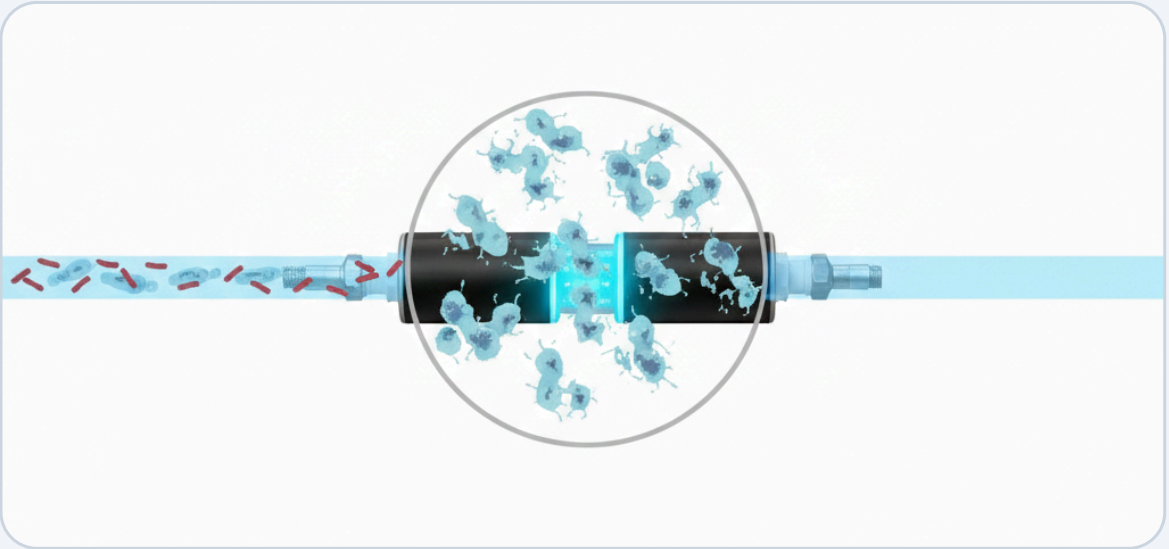
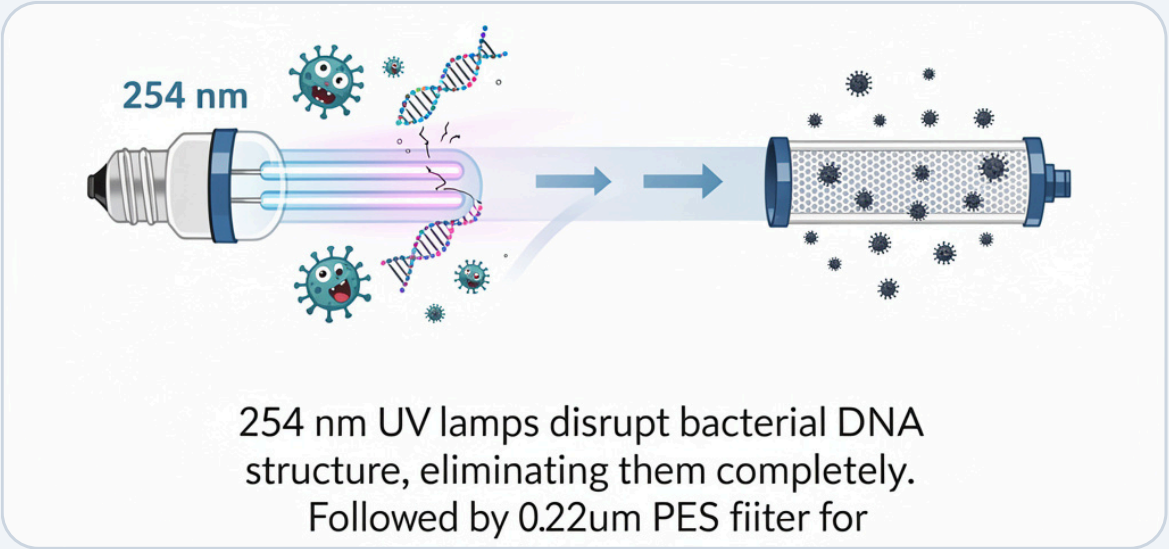
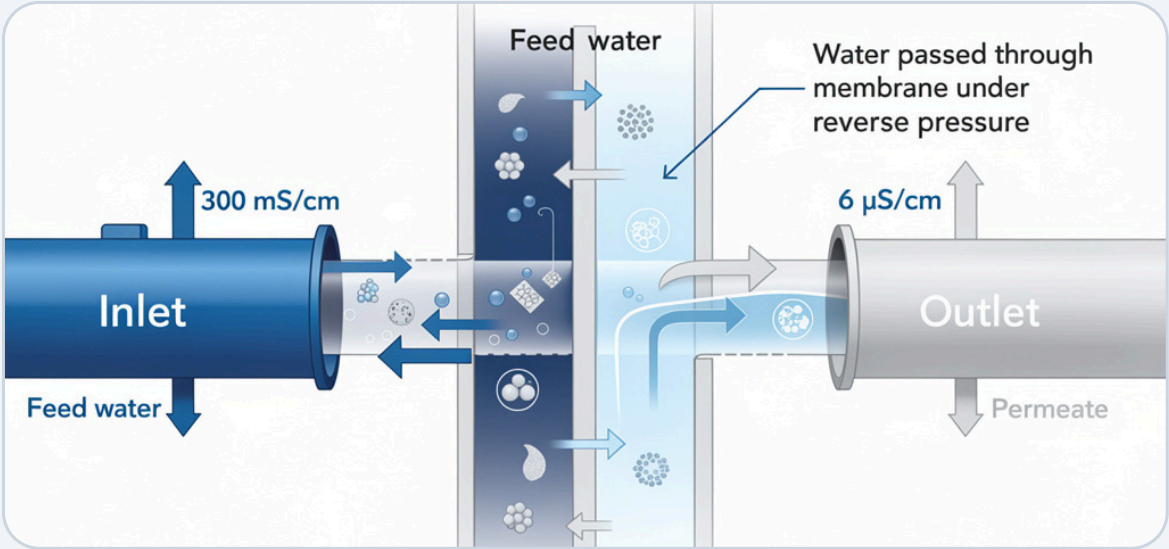
Turkish Standards Institution

CAP - 1988

College of American Pathologists

 **Note:** All analyses were performed in nationally and internationally accredited laboratories.

Advanced Purification Technology



Purification Technology Stack

- 1 Ion Exchange Resin**
Advanced membrane technology removes ionic contaminant
- 2 UV Sterilization**
Built-in UV for bacteria and organic compound control
- 3 0.2 μm Filtration**
Final particle and bacteria removal with PES membrane
- 4 Real-Time Monitor**
Digital display with conductivity and resistivity alert

Water Purification Process Flow



i Water temperature affects conductivity measurements; all values standardized and corrected at 25°C.

Reverse Osmosis

Water passed through membrane under reverse pressure, changing composition by **98%**. Inlet 300 μS/cm reduces to 6 μS/cm. Corrected at 25°C standard measurement.

UV Sterilization

254 nm UV lamps disrupt bacterial DNA structure, eliminating them completely. Followed by **0.22 μm PES filter** for absolute bacterial removal.

Organic Removal

Dual wavelength UV (**185 & 254 nm**) oxidation process destroys organic structures. Followed by **UF ultrafiltration** and 0.2 μm PES filter.

Advanced Filter Technology



Specially Designed Combo Filter

The Parvus Saffic series features a specially designed **PP+Carbon filter structure**. This application provides maximum inorganic substance removal with **2 to 4 times more carbon usage** compared to competitors.

- ✓ Pre-filter uses one Combo (PP+Carbon) filter and one Carbon filter
- ✓ "ION MIX" filter reduces ion load at the inlet
- ✓ Maximum inorganic substance removal efficiency



User-Friendly RO Filter

RO filters with **"Twist-In" technology**, specially designed to allow users to easily change filters. Designed for flush washing technology with high water production capacity.

100

GPD Standard (15 L/hr)

200

GPD Alternative (30 L/hr)



"Twist-In" Technology

User-friendly technology allowing all laboratory personnel to easily change filters by **simply rotating the filter**. All filters in the Parvus series feature this technology.

- ✓ Removes bacterial environments within the filter
- ✓ Prevents cross-contamination
- ✓ Ensures user safety during filter change



Practical Filter Hanging System

The Elite Pure series features "TWIST-IN" technology along with a **"Practical Hanging System"** for filter changes.

- ✓ Easily remove and replace filters by simply moving filters forward
- ✓ No tools required for maintenance
- ✓ All current system filters have practical hanging system

Ergonomic Design & Control System



Ergonomic Case Design

Designed with a user-friendly approach. A **magnetic locking system** allows users to easily change filters and access service areas.

- ✓ All users can easily access filters without additional tool
- ✓ Magnetic locking system for secure closure
- ✓ Easy service area access when needed



User-Friendly Dispenser Buttons

Electronically controlled water outlet buttons allowing users to easily obtain water of their desired quality.

- 💡 LED-lit buttons with warning indicators during water flow
- 🏷 Labels indicate the type of water outlet (RO/DI)
- ⚙ Electronic control for precise water quality selection



Fully Automatic Control Panel

Two separate displays providing comprehensive water quality monitoring and process control.

Display 1

Color LED process control system
Conductivity of inlet & Type III water

Display 2

Mohs value of Type II water
Mohs value of Type I water





Double Pump System

All models equipped with **two motors** for optimal performance and water quality maintenance.

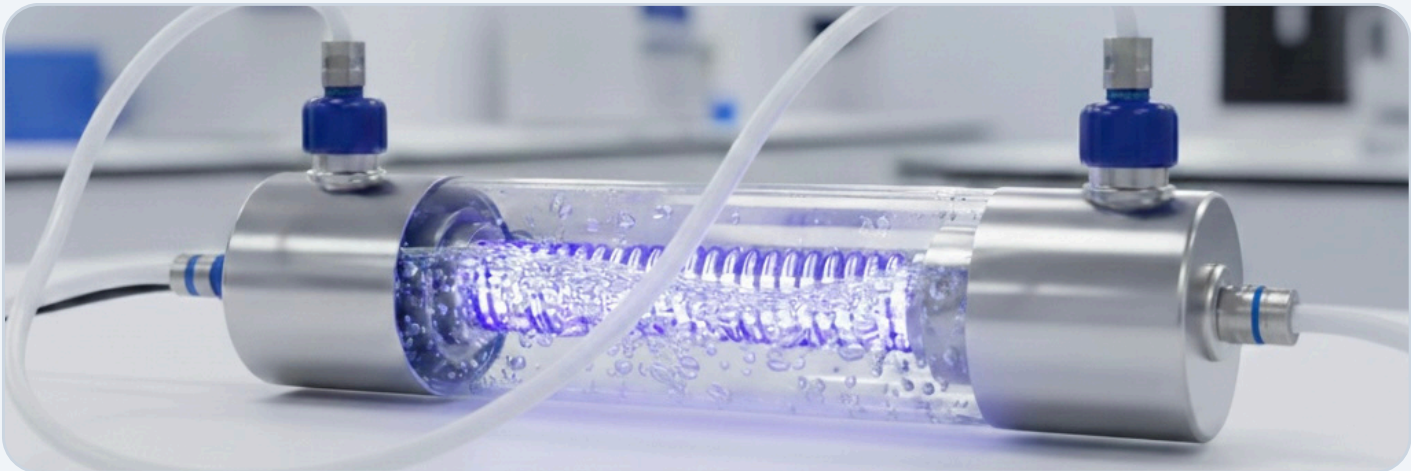
- 1 Motor produces pure water using the RO system
- 2 Motor provides internal circulation maintaining constant desired level

Ensures produced water is stored while maintaining system quality

Elite Pure T13 / T13 Bio

Product Description

The Elite Pure **T13 / T13Bio** models produce Type I and Type III quality water, allowing users to utilize both types in a single device. Particularly suitable for chemistry laboratories, QC labs, R&D labs, and microbiology laboratories.



T13Bio Special Features

Can be used in medical laboratories, biotechnology laboratories, and microbiology laboratories. Type III water suitable for water baths, autoclaves, chillers, and washing/rinsing processes.

Applications

- Spectrophotometers, AAS, ICP
- Dilution processes
- Titration & solution preparatiior
- Ion chromatography
- Electrochemical applications

Note: Analyses were performed in nationally and internationally accredited laboratories.

Technical Specifications

Parameter	Elite Pure T13	Elite Pure T13BIO
Water Type	Type I & Type III	Type I & Type III
Water Quality	15-18 Mohm.cm (Type I)<5ppm Tds (Type III)	15-18 Mohm.cm (Type I)<5ppm Tds (Type III)
Silica	<3ppb	<3ppb
Chloride	<1ppb	<1ppb
Sodium	<1ppb	<1ppb
TOC	<10 ppb	<10 ppb
Bacteria	NA	<0.01 cfu/mL (<10 cfu/L)
Particles	NA	<0.22 μm
Productio n Capacity	15L/H (30L/H Model T132)	15L/H (30L/H Model T132Bio)
Flow Rate	1L/Min	1L/Min
Tank Capacity	20 Liter Pressurized	20 Liter Pressurized
Water Output	Manual Dispenser	Manual Dispenser
Filter Capacity	Combo sediment + carbon, carbon, ion kompleks, 100GPD RO membrane, DI filtre	Combo sediment + carbon, carbon, ion kompleks, 100GPD RO membran, DI filtre, UV Module(free mercury), 0.22μm Pes Filter

Elite Pure T13 TOC / T13 TOCPLUS

Product Description

The Elite Pure **T13 TOC / T13 TOCPLUS** models produce Type I and Type III quality water. Particularly suitable for chemistry labs, R&D, biotechnology, and genetics laboratories.

High-Tech Applications

-  ICP-MS
-  LC-MS
-  HPLC
-  UHPLC
-  IC
-  GC-MS

TOCPLUS Advantage

The **T13TOCPLUS** model features a **pre-UV system** that prevents bacterial growth at the water inlet, resulting in a **lower TOC value** (<3 ppb typically <5 ppb).

Bio Applications

-  Biotechnology
-  Genetics
-  Microbiology

Technical Specifications

Parameter	T13TOC	T13TOCPLUS
Water Type	Type I & Type III	Type I & Type III
Water Quality	15-18 Mohm.cm (Type I)<5ppm Tds (Type III)	15-18 Mohm.cm (Type I)<5ppm Tds (Type III)
Silica	<3ppb	<3ppb
Chloride	<1ppb	<1ppb
Sodium	<1ppb	<1ppb
TOC	<5 ppb	<3 ppb (typ. <5 ppb)
Bacteria	NA	<0.01 cfu/mL
Endotoxin (LAL)	<0.001EU/ml	<0.001EU/ml
Particles	<0.22 µm	<0.22 µm
RNase	<1pg/ml	<1pg/ml
DNase	<5pg/ml	<5pg/ml
Protease	<0.15pg/ml	<0.15pg/ml
Production	15L/H (30L/H T132TOC)	15L/H (30L/H T132TOCPLUS)
Flow Rate	1L/Min	1L/Min
Tank	20 Liter Pressurized	20 Liter Pressurized
Filter Capacity	Combo sediment + carbon, carbon, ion kompleks, 100GPD RO membran, DI filtre, TOC module, UF, 0.22µm Pes Filter	Combo sediment + carbon, carbon, ion kompleks, 100GPD RO membran, DI filtre, UV Module(free mercury), TOC module, UF, 0.22µm Pes Filter

Note: Analyses were performed in nationally and internationally accredited laboratories.

Elite pure T23 / T23 Bio

Product Description

The Elite Pure **T23 / T23Bio** models produce Type II and Type III quality water in a single device. Suitable for chemistry labs, QC labs, R&D labs, and microbiology laboratories.

Applications

-  Titration & solution preparati
-  Spectrophotometers, AAS, ICP
-  Water baths & autoclaves
-  Chillers & washing/rinsing

T23Bio Special Features

Can be used in microbiology laboratories. Features UV Module (free mercury) and 0.22µm PES Filter for enhanced biological contamination control.

Type III Water Uses

-  Water baths
-  Autoclaves
-  Chillers
-  Glassware rinsing

Technical Specifications

Parameter	Elite Pure T23	Elite PureT23BIO
Water Type	Type II & Type III	Type II & Type III
Water Quality	10-15 Mohm.cm (Type II)<5ppm Tds (Type III)	10-15 Mohm.cm (Type II)<5ppm Tds (Type III)
Silica	<3ppb	<3ppb
Chloride	<5ppb	<5ppb
Sodium	<5ppb	<5ppb
Bacteria	NA	<0.01 cfu/mL (<10 cfu/L)
Particles	NA	<0.22 µm
Production Capacity	10L/H (30L/H Model T232)	10L/H (30L/H Model T232Bio)
Flow Rate	0.7L/Min	0.5L/Min
Tank Capacity	20 Liter Pressurized	20 Liter Pressurized
Water Output	Manual Dispenser	Manual Dispenser
Filter Capacity	Combo sediment + carbon, carbon, ion kompleks, 100GPD RO membrane, DI filtre	Combo sediment + carbon, carbon, ion kompleks, 100GPD RO membran, DI filtre, UV Module(free mercury), 0.22µm Pes Filter

Note: Analyses were performed in nationally and internationally accredited laboratories.

Elite Pure T123 / T123 Bio & Chemical Values

T123 / T123Bio Description

The Elite Pure **T123 / T123Bio** models produce **Type I, Type II and Type III** quality water in a single device. Suitable for chemistry labs, QC labs, R&D labs, and microbiology laboratories.

T123 / T123Bio Specifications

Parameter	T123	T123Bio
Water Type	Type I & III	Type I & III
Water Quality	15-18 Mohm.cm (I&II)<5ppm Tds (III)	10-18 Mohm.cm (I&II)<5ppm Tds (III)
Silica	<3ppb	<3ppb
Chloride	<1ppb	<1ppb
Sodium	<1ppb	<1ppb
TOC	<10 ppb	<10 ppb
Bacteria	NA	<0.01 cfu/mL
Particles	NA	<0.22 µm
Production	15L/H (30L/H T132)	15L/H (30L/H T132Bio)
Flow Rate	1L/Min	1L/Min
Tank	20L Pressurized	20L Pressurized

Chemical Values - T13 & T13TOC

Element	Value	Element	Value
Aluminium	<4 ppb	Carbon tetrachloride	<0.1ppb
Copper	<0.09 ppb	Tin	<0.09 ppb
Fluoride	<0.01ppm	Arsenic	<0.09 ppb
Nitrates	<0.02ppm	Barium	<0.3ppb
Zinc	<0.9 ppm	Cadmium	<0.06 ppb
Chloroform	<0.1ppb	Chromium	<4 ppb
Iron	<0.9ppb	Lead	<0.07 ppb
Volatile phenols	<0.2 ppb	Mercury	<0.07 ppb

Silver: <0.09 ppb | Values even lower in T13TOC and TOCPlus series

Quality Assurance

The analysis results show that interference or uncertainties arising from the water used are avoided, especially in analyses performed with high-tech equipment. These values are even lower in the Saffic T13TOC and Saffic TOCPlus series. The use of DI filters and the high number of filters allow for the provision of water with much higher ultra-high quality.

Suitability Table for Intended Use

Application	T23	T23 Bio	T13	T13 Bio	T13 TOC	T13 TOCPlus
HPLC, UHPLC	—	—	—	—	✓	✓
GC-MS, ICP-MS	—	—	—	—	✓	✓
AAS / ICP-OES	✓	✓	✓	✓	✓	✓
IC, Spectrophotometer	—	—	✓	✓	✓	✓
Molecular Biology	—	—	—	✓	✓	✓
Microbiology	—	✓	—	✓	✓	✓
Solution Preparation	✓	✓	✓	✓	✓	✓
Tissue Culture	—	✓	—	✓	✓	✓
pH Solutions	✓	✓	✓	✓	✓	✓
Washing Glasses	✓	✓	✓	✓	✓	✓
Water Bath	✓	✓	✓	✓	✓	✓
U: Suitable — : Not suitable Autoclave	✓	✓	✓	✓	✓	✓

T13 TOC / TOCPlus

HPLC, UHPLC, GC-MS, ICP-MS, Biotechnology, Genetic, Microbiology

T13 / T13Bio / T23 / T23Bio

Analytical solutions, AAS/ICP, Spectrophotometer, Electrochemical, Water bath, Autoclave

T23 / T23Bio

Dishwasher, Glassware rinsing, Source for Type I quality water



TECH LAB SERVICES

Delivering purity , Assuring Quality



ULTRA PURE
WATER



RELIABLE
PERFORMANCE



ADVANCED
TECHNOLOGY



SUSTAINABLE
SOLUTIONS



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