



# Quartz Cabinet Double Distillation Unit

Purity, Precision & Performance Redefined

# Water

## Impurities & Source

Scientific community globally rely on pure water for a myriad of purposes within laboratories.

Utilizing the appropriate level of water purity is a fundamental strategy to attain more consistent and accurate results in laboratory work.

By ensuring a reliable source of pure water within the laboratory, scientists can enhance the reproducibility of experiments, minimize the risk of contamination, and optimize the overall efficiency of their research processes. The adoption of in-house purification systems aligns with sustainable practices, reflecting a commitment to environmental responsibility within the scientific community.

Water is often referred to as the "Universal solvent" due to its excellent solvent properties and contains common impurities



Dissolved Minerals like calcium, magnesium, sodium and potassium

Suspended Solid particles, such as sand, silt, and clay

Micro organisms: Bacteria, viruses, algae, and other pyrogens

various chemicals, including pesticides, fertilizers, heavy metals, and organic pollutants

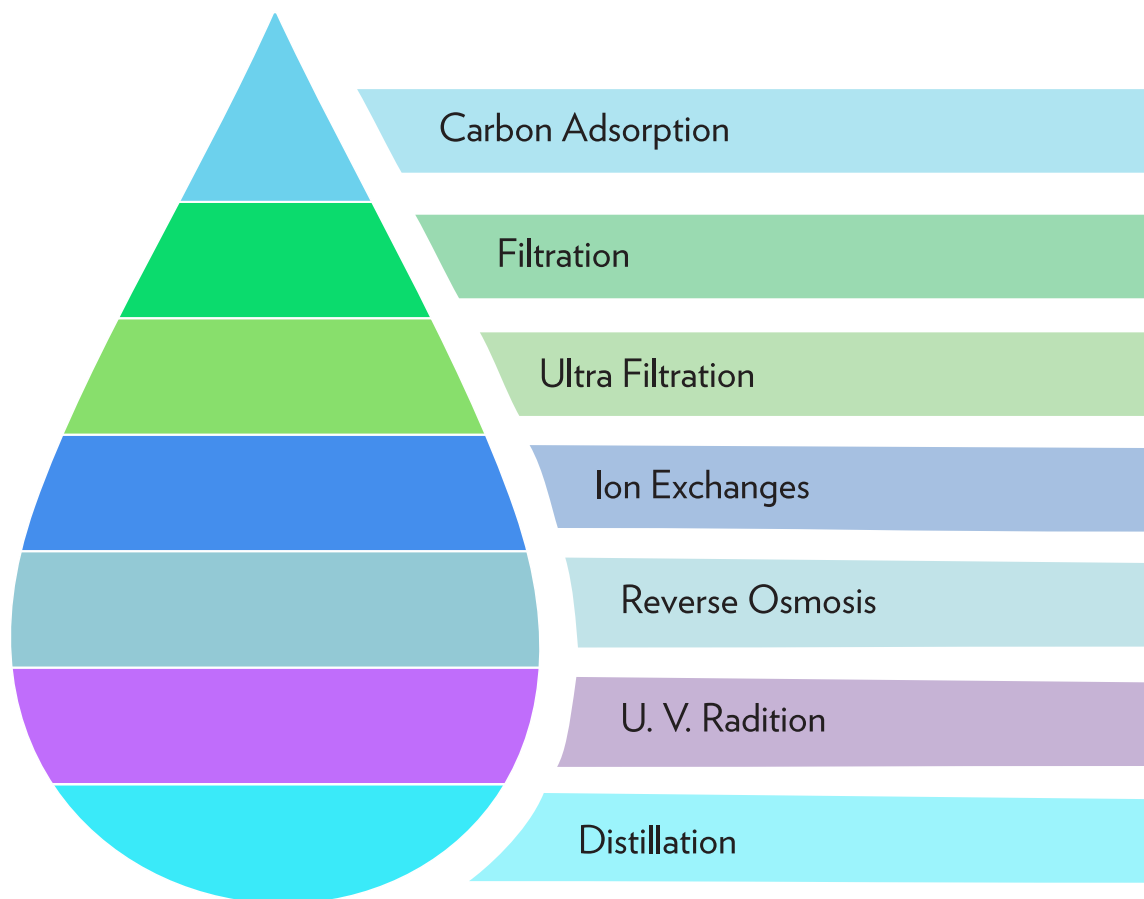
Natural organic matter, such as decaying plant and animal material

Dissolved Gases viz. Oxygen, Nitrogen and carbon dioxide,

It is important to note that water source exhibits significant variations from one geographical location to another, and these fluctuations can extend to changes from season to season and environmental conditions.

# Water

## Purification Methods and Distillation



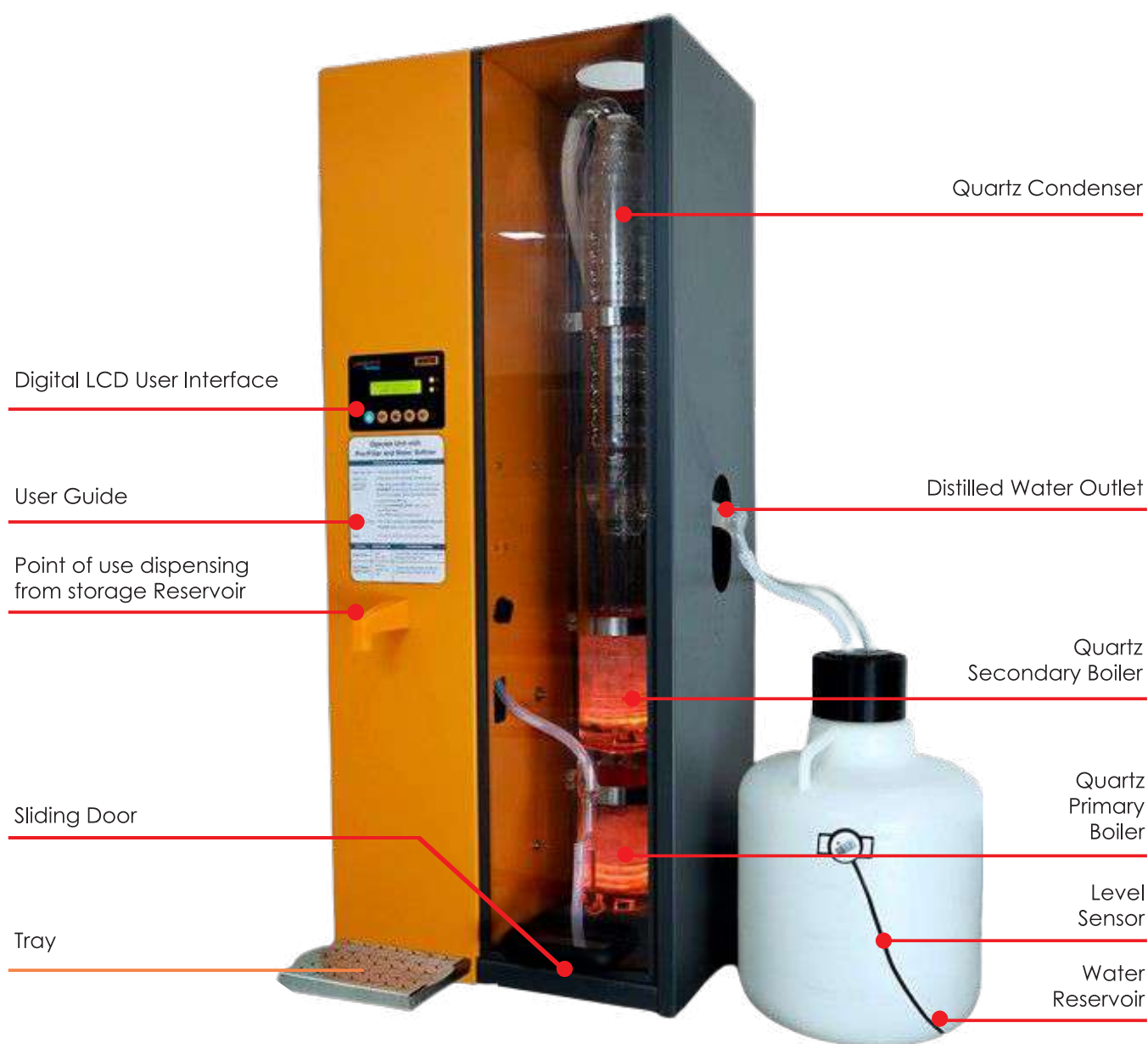
Of all above Distillation is probably the oldest method of water purification, Involving heating water to create steam, which is then condensed and collected back into liquid form, leaving impurities behind in boiling vessel.

Distillation remains most environmentally sustainable and economical while effectively removing wide range of impurities, including minerals, heavy metals, and volatile organic compounds, Pathogen Elimination by killing bacteria, viruses, and other microorganisms, thus producing high-purity water with low conductivity, making it suitable for various applications, including laboratory work, medical uses, and in industries requiring ultrapure water.

Standard for reagent grade water highlights the superior water quality of water achieved through Quartz or Vitreous Silica stills over water obtained using metal stills. Combining different methods like Distillation, Deionization, Reverse osmosis is often done to achieve comprehensive purification to achieve the specific water quality requirements and the intended use of the water.

All Quartz Water Distillation Units from Borosil facilitate automatic on-demand operation, promotes safe working environment by effectively purifying water through the distillation process.

The Borosil Scientific Quartz Cabinet Double Distillation Unit (QCD) is crafted from Pure Quartz, boasting a remarkable 99.95% SiO<sub>2</sub> purity. Quartz, with impurities at a PPM level, is exceptionally well-suited for water distillation, ensuring the highest level of purity.



**Auto  
Dispense**

**Accurate  
Volume**

**Serial  
Dispensing**

# Quartz Cabinet Distillation (QCD250)



**All Quartz  
Construction**  
99.95% SiO<sub>2</sub>



**Cabinet Assembly**  
Promotes Space-Efficient and  
Safe Usage



**Water Reservoir**  
Distilled water is stored  
eliminating contamination



**On Demand Output**  
Produces desired amount  
of water and auto shut down



**Point of Use Dispensing**  
Distilled water in small quantities  
dispensed at your fingertips, for daily lab  
applications



**Safe Cut-offs/  
Dry Run Cut-Off**  
Safety of user and instrument, along  
with longevity of the instrument



**Optical Level Sensor**  
Monitors Reservoir filling and  
auto on/off of unit.

# Quartz Cabinet Double Distillation Unit

## Technical Information

Model	Quartz Cabinet Distillation (QCD)
Capacity Distilled Water Output	2.5 LPH Lit / Hour
Minimum cooling water requirement (Ltr/min)	2 Lit / Min
Heater	Quartz
Boiler	Quartz
Condenser	Quartz
Biological Activity	Pyrogen Free
*Conductivity S/cm	<1 x 10 <sup>-6</sup>
Power consumption (kw)	4.4 kW
Voltage (V)	230V
Dry Run Protection	Yes
On Demand Output	Yes
Storage Mode	Yes
Auto Filling Reservoir	Yes
From Storage Dispense rate (ml/min)	900 ml
HSN Code	84194090
Product Code	<b>BLFRQCD25000000000</b>



\*1 Inlet water TDS < 100 ppm

# Note: Because of difficulties associated with measurement of the pH value of high purity water and the doubtful significance values obtained, limits for the pH value of grade 1 & grade 2 water have not been specified.

Pure water is an excellent solvent and will dissolve carbon dioxide from the atmosphere to form a very dilute solution of carbonic acid with a pH below 7. Pure water typically exhibits a conductivity of 1-2  $\mu\text{S/cm}$  and a pH of 5, primarily due to the slight absorption of CO<sub>2</sub> (0.5 ppm) from the surrounding environment.

# Laboratory Applications of Distilled Water

## Agriculture Research & Testing



Laboratory Research  
involving chemical analysis  
& biological research

## Environment Testing



Prepare standards,  
calibrate instruments,  
buffer preparations

## Water Testing



Quality Testings involving  
chemical analysis  
& biological research

## Microbiology



Media Preparations,  
Buffers, Reagent  
Dilutions, dilute stains and  
fixatives, Buffered Peptone  
Water Preparation

## Cosmetics



Emulsion Formulation,  
Hydration to skin care,

## Dairy Industry



Media Preparations,  
Buffers, Reagent  
Dilutions, Bacterial Plate  
counting, Somatic Cell  
Counting, Residue tests  
for possible contaminations.

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