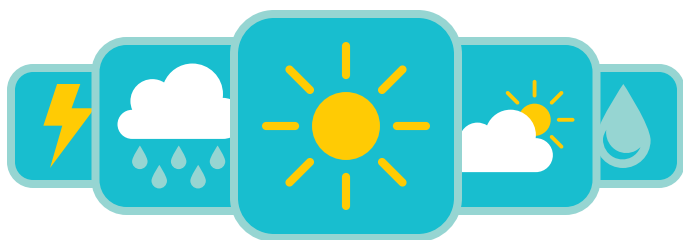


How's the weather in your chamber?

Selecting the right water solution for your testing chamber



Testing chambers expose products to precisely defined conditions of temperature, humidity, and/or light in a controlled setting. By artificially replicating specific environmental stresses, these chambers assess the effect of long-term exposure to the environment on consumer products, materials, equipment or components.

Accelerated testing is performed in many industries (e.g., pharmaceutical, cosmetics, paint and coatings, plastics, textile and automotive), with various standards establishing test criteria that are specific to the industry, the type of item, and its intended use. These environmental tests provide crucial information and are used at different phases of product development, such as for materials evaluation, prototype testing, product shelf-life assessment, and to confirm product quality and reliability before lot release.

Many accelerated aging tests rely on water to mimic exposure to moisture, dew or rain. Atomizers may be used to spray very fine drops of water, while vapor steam generators or boiler systems are used to generate humidity. Using poor water quality for these instruments could lead to the formation of deposits, which would cause poor spray or humidity control and interfere with the tests being performed.

Using pure water that is low in the following contaminants will contribute to extending chamber lifetime and ensuring reliable and reproducible test conditions:

- **Ions:** Water containing minerals (e.g., calcium, magnesium, iron, manganese) may form scale or mineral deposits inside the heater, eventually causing system failure. Deposits may also form on samples being tested or inside the chamber and affect test results.
- **Particles:** Particles and colloids generate aggregates and hard deposits on samples and inside the chamber.
- **Silica:** Some chambers are more sensitive to silica than others. Silica may deposit on samples and form a film affecting their color and gloss. It may also deposit inside the chamber, reducing its reflective properties, and on the xenon lamp, if used, reducing its light intensity. All these factors may impact test results.
- **Organic molecules:** Organics should be minimized to avoid soiling the test chamber, leading to more frequent maintenance.

The Milli-Q® IX water purification system delivers constant-quality pure water with low levels of these contaminants. The system is well-suited to directly feed testing chambers or manually fill reservoirs thanks to its ease of use and maintenance, robustness and durability.

Advance Your Purpose With the Milli-Q® IX 7003/05/10/15 Pure Water System

Assure quality and simplify traceability

- Constant, reliable pure water quality
- Continuous quality monitoring
- Paperless data management
- Automatic e-record archiving

Prevent disruptions. Extend lifetime. Optimize your investment.

- Sturdy and durable system
- Certified field service engineers
- Service Plans for preventive maintenance and protection
- Online contract management

Increase productivity

- Intuitive interaction and dispensing
- Direct equipment feed
- Easy to use and maintain
- Configuration flexibility (wall mount or benchtop)

Reduce environmental impact and running cost

- UV lamps free of mercury
- Reduced water consumption
- No need for chemical regeneration

Additional accessories available:

leak detector and solenoid valve; foot pedal

Water quality specifications

Pure, Type 2 water specifications¹

Resistivity at 25 °C	>5 MΩ·cm; typically 10–15 MΩ·cm
Conductivity at 25 °C	0.2 μS/cm; typically 0.1 μS/cm
TOC	≤30 ppb
Production flow rate	3 L/h (Milli-Q® IX 7003) 5 L/h (Milli-Q® IX 7005) 10 L/h (Milli-Q® IX 7010) 15 L/h (Milli-Q® IX 7015)
Storage capacity	25 L tank 50 L tank 100 L tank

1. These values are typical and may vary depending on the nature and concentration of contaminants in the feed water.



Design that supports your
sustainability initiatives.

For more information, contact local Lab Water Solutions expert or visit
SigmaAldrich.com/milli-q-ix

