

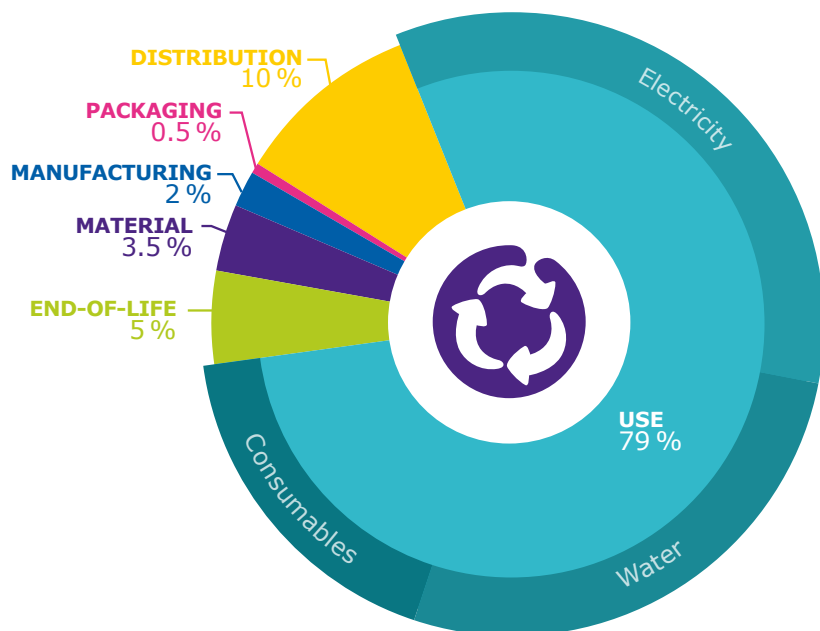
Sustainability at the Heart of our Innovative Designs

Proactively responding to all our environmental concerns.

As your customer, we want you to be confident that we are proactively engaged in reducing the environmental footprint of our products. From reducing water and energy consumption, to minimizing plastic and eliminating chemical waste, our dedicated water system engineers are working on new ways to reduce the ecological footprint of our products to better support all our sustainability goals.



Contribution to Global Warming Potential* by Life Cycle Stage



Data defines our Design Decisions

System use generates the greatest environmental impact

To accurately measure the environmental impact of our water purification systems, we performed a life cycle assessment (LCA) according to ISO 14040 on our Elix® 100 water purification system. **LCA indicates that 79% of the Global Warming Potential of our systems occurs during onsite usage.**

Electricity & water consumption have the largest environmental impact, making these key areas we are focusing on to improve the environmental footprint of our systems.

* Measured in CO₂ equivalents.

Achieve your sustainability goals

With our eco-friendly purification technologies & design features



Up to 50% water savings

- E.R.A.® technology optimizes water recovery from the RO membrane, reducing water use by up to 50% compared to other RO systems
- Equates to ~1200 L/day in water savings
- Extends pre-treatment cartridge lifetime



Up to 30% energy savings

Our new Milli-Q® IX pure water systems achieve **up to 30% energy savings** (>500 kWh over the product lifecycle) vs. previous generation Elix® systems.

Mercury-free UV technology

- ech₂o® UV lamps are compliant with recent regulations on mercury
- Minimizes mercury handling
- More compact vs. mercury-containing lamps, allowing for smaller sized systems



No chemical waste

- Elix® EDI technology eliminates the need for hazardous chemical regeneration procedures and associated waste thanks to a weak electrical current that continuously regenerates ion-exchange resins
- An intelligent algorithm automatically adjusts to minimize electricity consumption by the Elix® module
- No need for softeners, conditioning cartridges or costly resins

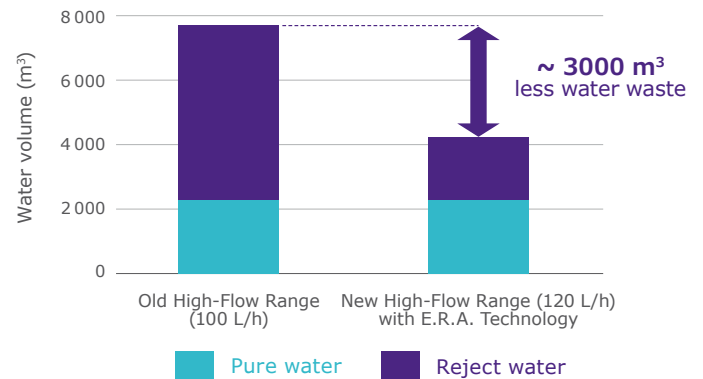
Less plastic for our consumables and systems

As part of Merck's Design for Sustainability approach to product development, the Milli-Q® R&D team have developed new innovative systems and purification technologies.

New Milli-Q® IQ and IX series systems boost the following improvements vs. previous generation systems:

- **50% plastic (by weight)** sourced from local, TfS-audited suppliers.
- **33% smaller purification cartridges** thanks to smaller beads of IQnano® ion-exchange media, which reduce the required bed volume and improve kinetics.
- Smaller cartridges and UV lamps, combined with improved design, allows for **smaller overall systems** vs. our previous generation. This:
 - Reduces the total plastic required
 - Reduces weight up to 17%
 - Reduces volume up to 25%

E.R.A.® technology reduces water waste



The graph shows the split between the pure water produced and the waste water generated, based on a production of 1000 L of pure water, 312 days per year, for 7 years.



Mercury free

Operational Excellence

All our sites are ISO 14001 certified and all our systems comply with critical environmental regulations and directives, such as RoHS, REACH and WEEE.



In addition, as a member of the Together for Sustainability (TfS) network, we strive to work with suppliers that have been audited for sustainable supply chain practices.



NEW Digital solutions Reduce your CO₂ footprint



Paperless data & system management

We've made it possible to effectively manage your water system and its data without ever needing to print, **saving up to 1 million sheets of paper and 6 tons of CO₂ every year.*** For all systems, key documents can be accessed either online, in system memory, or are provided on a USB key. Plus, our new digital service, MyMilli-Q™ online solution, securely stores all system documents in the cloud, further **reducing paper waste and improving traceability†.**

Remote customer support

Milli-Q® Connect remote services support **online diagnostics and troubleshooting** by our service team. This unique feature may even allow for remote repairs, avoiding the need to wait for a service visit.

Learn more at
SigmaAldrich.com/MyMilli-Q



TOP 1% for sustainability Management

In 2020, Merck KGaA, Darmstadt, Germany was awarded a Platinum status from EcoVadis, placing us in the top 1% of all companies assessed.

EcoVadis is the world's most trusted provider of corporate social responsibility ratings. The sustainability assessment looks at policies, actions and results across the categories of Environment, Labor and Human Rights, Fair Business Practices and Sustainable Procurement.

Find more information on our corporate responsibility strategy at
SigmaAldrich.com/SSBI



Special recognition in the categories of:

- Environment
- Labor Practices & Human Rights

*Calculations based on data from environmental authorities.

† MyMilli-Q™ online solution is available for systems under contract or warranty.

Milli-Q®

Lab Water Solutions

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