

# The AutoSampler for Wastewater Monitoring



*Empowering Action for Environmental Protection and Public Health*

Wastewater from our homes, businesses and industries may contain harmful contaminants such as pathogens, hazardous chemicals, heavy metals and various organic and inorganic substances. Today, some 380 billion cubic meters of wastewater are produced annually worldwide – five times the amount of water passing over Niagara Falls, and wastewater volumes are expected to increase 24% by 2030, and 51% by 2050, according to the United Nations University Institute for Water, Environment and Health (UNU-INWEH).

These pollutants, if not properly treated and removed, can negatively impact aquatic life and environmental ecosystems, and harm human health.

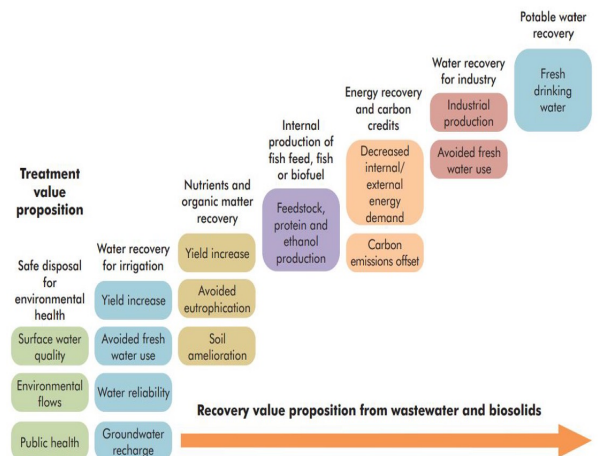


## Efficient Treatment, Reuse & Recovery of Wastewater Resources

Wastewater treatment plants have the potential to treat, reuse and recover valuable water resources, energy and new secondary raw materials, and generate economic benefits for a variety of sectors (municipal, industrial, agriculture). Our Autosamplers can achieve cost-effective large-scale deployment to accelerate the recycling and recovery of wastewater resources, where additional costs pose a challenge.

## Reliable and Accurate Sampling at all depths

Our Autosampler is capable of reliable and accurate sampling of both influent and effluent quality of wastewater (municipal, industrial, agriculture), at all depths up to 30m below ground. Its robust and rugged design allows for versatile deployment in challenging environments, enabling efficient sampling for a wide range of water extraction and treatment processes to improve the quality and safety of wastewater management.



Source: Wastewater as a resource (2022), EIB



## Seamless Data Management with Real-Time Alerts

Our Autosamplers provide a powerful solution for wastewater management with its seamless data management and real-time alerts that deliver valuable insights for efficient water extraction, treatment and pollution control. With our Autosampler, you can now monitor sampling jobs, environmental conditions, and system operations in real-time, and enjoy quick access to updated information on our secure cloud-based system. This allows timely intervention and remote optimization to achieve all your sampling needs with ease.

## Technical Specifications

### Portable Autosamplers for Deep Manholes

|                        |   |
|------------------------|---|
| Dosing System          | <ul style="list-style-type: none"><li>• Operated by a peristaltic / vaccum pump (Up to 8m)</li><li>• Operated by a pneumatic bladder pump (Up to 30m)</li></ul>   |
| Multi-hole Strainer    | <ul style="list-style-type: none"><li>• Customized stainless steel strainer</li><li>• Fits with braided suction intake hose</li></ul>   |
| Distribution System    | <ul style="list-style-type: none"><li>• Programmable sampling:<ul style="list-style-type: none"><li>• Single-shot sampling volume (Up to 350ml)</li><li>• Multiple / Composite sampling</li><li>• Group / Parallel sampling</li><li>• Time-based sampling (Uniform &amp; Non-Uniform)</li><li>• Flow-based sampling</li><li>• Event-based sampling</li></ul></li></ul>  |
| Collection bottles     | <ul style="list-style-type: none"><li>• Accommodate up to 24 multi-bottle configurations (PP, PE, HDPE)</li><li>• Sample cooling with ice packs/dry ice or condenser</li></ul>  |
| Multi-parameter Sensor | <ul style="list-style-type: none"><li>• Water level / Flow, Temperature, Humidity, Door sensors</li></ul>   |
| Data Management        | <ul style="list-style-type: none"><li>• QR Code for mobile devices with real-time access to online platform</li><li>• Remote Terminal Unit (RTU) for wireless signal or cloud-based system</li><li>• Data acquisition, transmission and download from cloud-based system</li><li>• Data transfer to wireless device, laptop and PC</li></ul>  |
| System Control         | <ul style="list-style-type: none"><li>• Remote control via mobile apps and/or Chatbot</li><li>• Easy to use LCD display for programming</li></ul>   |
| Automatic Features     | <ul style="list-style-type: none"><li>• Automatic flushing, sample collection and cleaning operations</li><li>• Automatic real-time alerts and notifications</li></ul>  |
| Housing                | <ul style="list-style-type: none"><li>• Robust and versatile design for challenging environments</li><li>• Mobility features ( built-in wheels and extendable trolley handle)</li></ul>   |
| Power Requirements     | <ul style="list-style-type: none"><li>• Voltage inverter to supply continuous power up to 2500W</li><li>• Two sets of 3800 WH battery and battery charger (for at least 1 cycle)</li></ul>  |
| Optional Features      | <ul style="list-style-type: none"><li>• Subscription for wireless signal or cloud-based system monitoring<ul style="list-style-type: none"><li>• Email and SMS/WhatsApp notifications on water levels in manhole, sampling job status, GPS location for remote control</li><li>• Real-time monitoring of operating conditions, and remote optimisation of system functions</li><li>• API for real-time updates and access to data and log files</li></ul></li></ul> |

At Nm3 Tech, we aspire to become the leading provider of innovative and comprehensive environmental sensing and monitoring solutions that empower organisations and communities to safeguard our planet. With our expertise in IoT and big data analytics, we aim to provide advanced and reliable systems that covers water, air and soil quality monitoring, enabling our stakeholders to make informed decisions and take effective action towards environmental sustainability and responsible resource management for future generations.

For more information, please visit <https://www.nm3.sg>.



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