

The AutoSampler for Groundwater Monitoring



Empowering Action for Environmental Protection and Public Health

Groundwater is a vital resource that supplies drinking water to millions of people worldwide, accounting for half of the volume of freshwater withdrawn for domestic use, including drinking water for the vast majority of the world's rural population, and one quarter of all water abstracted for irrigation and industrial purposes. However, groundwater can be susceptible to intensive exploitation and contamination, endangering its sustainability and accessibility to the most vulnerable populations, who depend on groundwater for their everyday needs.

Proper monitoring and management of groundwater resources is crucial to identify and mitigate possible negative impacts, such as over-abstraction, reduced recharge and pollution, to safeguard food security and economic growth.

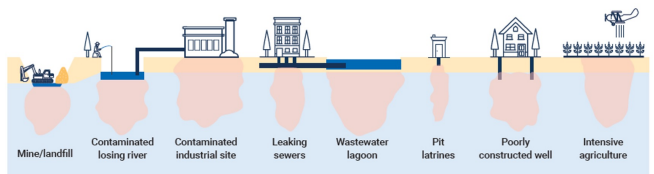
Groundwater & Ecosystems



Source: Groundwater: Making the Invisible Visible (2022), UNESCO

Reliable and Accurate Sampling at all depths

Our Autosampler is capable of reliable and accurate sampling of groundwater quality and monitoring water levels, at different 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 groundwater management.



Real-time sampling to address groundwater pollution and depletion

Groundwater pollution reduces the suitability of abstracted groundwater for drinking and other purposes, including domestic, agricultural and industrial uses, and can negatively impact groundwater-dependent ecosystems.

Water sampling can help to identify the sources, type of pollutants, and potential health risks. Early detection of contamination through water sampling is crucial to prevent groundwater pollution and depletion, and mitigate the long-term impacts of pollution on the environment and public health.



Seamless Data Management with Real-Time Alerts

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

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>.



Headquarters

8 Boon Lay Way, #02-01
Singapore 609964
Tradehub 21

☎ +65 8777 4987

✉ info@nm3.sg

R&D Centre

PUB Singapore Water
Exchange, 84 Toh Guan Road
East #03-05, Singapore 608501