

# Hydro-Logic® Aquator

Develop plans to ensure resilient, efficient water systems now and into the future.

## Solution Profile

**Test your water resource system performance under a range of scenarios, to ensure resilient and cost-effective management of water resources.**

The Hydro-Logic® Aquator software platform provides modellers, water resource planners and hydrologists with reliable, actionable insight into complex water resources systems, enabling them to assess critical supply, demand and environmental factors and analyse a range of scenarios.

Designed to inform, support and deliver robust water supply plans in the heavily regulated UK public water sector, the platform has proven itself in the most demanding of markets — and with a wide range of customisation features, capabilities and support options it can flex to meet the challenges of even the most demanding strategic or operational planning settings.

As part of the Hydro-Logic® solution set, Hydro-Logic® Aquator has been developed by and for expert water resource professionals to simulate and appraise water resources to meet a range of future challenges, such as climate change and rising consumption. It allows supply availability and risk to be assessed and balanced with operational cost / revenues.

## Benefits

**Critical insight for hydrologists, modellers, water resource planners, regulators and consultants.**

- » Plan to ensure a resilient, cost-effective water resource system now and in the future
- » Ensure uninterrupted water supply to residential, commercial and industrial customers
- » Deliver robust, reliable strategic and operational water resource and drought plans
- » Highly trusted and user friendly package compared to peers
- » Built in audit tracking functions and diagnostics for managing complex system models
- » In-built optimiser to balance resource risk and cost during simulation



## Systems

**Model systems of any size and complexity:**

- » Conjunctive/mixed use water resource systems
- » Public water supply
- » River catchments, lake and reservoirs
- » Navigation and canal systems
- » Hydropower
- » Irrigation resource management

## Applications

**Address critical water management issues:**

- » Future climate change risks
- » Asset management decision making
- » Strategic scenario planning (e.g. water trading or transfers)
- » Alternative option/solution testing
- » System yield or availability estimation
- » Extreme weather and system resilience testing
- » Outage reviews and operational efficiency
- » Reservoir or operational control curve optimisation



Learn more:

→ [hydro-int.com/aquator](https://hydro-int.com/aquator)

## Technical information

### Technical specifications

- » Windows 7 / Windows 8 or Windows 10, 32 or 64 bit
- » Recommended screen resolution: 1600 x 900 (HD+) or better
- » Recommended processors: Intel Core i5 (or equivalent) or better for large models
- » Recommended RAM: 4GB or greater

*Note: Hydro-Logic® Aquator may be installed on Windows Server environments, but should be tested by the user for suitability*

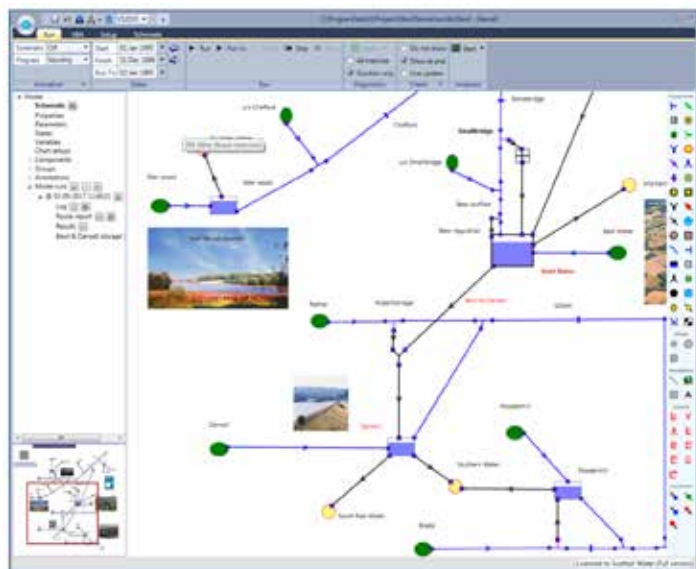
### The Aquator Suite

- » Hydro-Logic® Aquator XV

*The core simulation package.*

- » Hydro-Logic® Aquator XM

*A control program add-on for undertaking different types of analysis based on Hydro-Logic® Aquator water resource system models (distributed computing or batch runs).*



## How it works

Users construct a representation of a water system by dragging and dropping components from a toolbox onto the schematic area. Users then enter values for the parameters required by each component in order to generate a fully working model along with required time series or profiles.

Each component encapsulates a set of operating rules or constraints; Hydro-Logic® Aquator seeks to satisfy daily demand by automatically enforcing these rules no matter how complex the system.

While obeying these rules Aquator executes a linear optimisation algorithm known as AquaSolver, which tries to find the best solution for daily water movement by supplying at lowest cost when water is plentiful or supplying according to the state of resources when water is scarce.

### Custom rules and modifications

If custom rules are required, or complex interrelationships exist between components, users can use Microsoft® Visual Basic® for Applications (VBA) to modify the built-in rules.

While users might be comfortable using VBA themselves, the Hydro-Logic® Services team offers customisation and modification options, and are delighted to offer additional model development services.

**Hydro-Logic® Aquator is the only water resource supply software in the world approved to use Microsoft Visual Basic® for Applications (VBA) to customise its models—making it uniquely capable of helping users to address their most important water management challenges.**



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**Find out how Hydro-Logic® Aquator could help you develop better water management plans:**

→ [hydro-int.com/aquator](http://hydro-int.com/aquator)