

A unique green technology designed to provide safe water, affordable light and power to remote communities.

LightWELL

SAFE WATER PURE LIGHT



LightWELL Lite (LWL) < 3000 liters/day⁽¹⁾

Roof, wall or tank mounted safe water filtration system, for domestic **urban** dwellings, offices, schools, factories, small rural communities and public toilets, etc. 24 hour continuous gravity fed filtration provides up to 3000 l/day capacity with a minimum of 1000 litres available for morning demand. Source water is from existing tanks, wells, rivers, ponds, or similar.

FEATURES

Stand alone self contained water purification and lighting systems.

Delivering crystal clear, virus and bacteria free water, from dirty & contaminated sources through low pressure dead-end bio active ultrafiltration.

Expandable production capacity for water & power.

Simple to install and integrate into community life.

Automatically self cleaning run by a small solar panel mounted on the top of filter tank.

Cost and space effective.

NO consumables.

Very low maintenance.

NO technical skills required.

Design life exceeds 10 years.

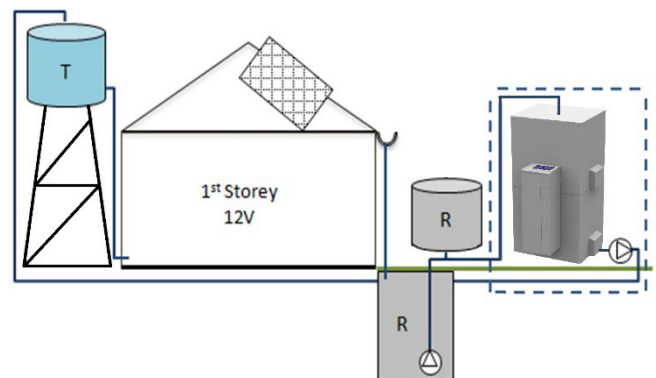
Choice of delivery systems.

Additional water treatments for medical applications.

Application Example :

LightWELL and Rainwater Harvesting

Suitable for **dwellings** that use a well for water supply or collect rain water to an underground rain tank "R". Using PV generated power stored in batteries, water is pumped to a feed tank and then flows by gravity to LW. Filtered water is pumped to the elevated tank for gravity distribution.





Technical Data

Application

Filtration of non-saline surface water, groundwater or rainwater for small communities, schools, offices, factories, urban dwellings, and public toilets.

Operation mode

Low pressure Ultrafiltration (ULPUF).
Dead end bio active Ultrafiltration.

Membrane characteristics

Material : Organic Polymer PES.
Flat sheet vertically mounted.
MWCO of 150 kDalton.
Pore size of 0.04 μm .
Membrane area of 10 m^2
Nominal flux of 5 LMH (1200 lpd) @25°C.

Removal Efficiency

Pathogens removal of 99.99%.
Turbidity can be reduced to 0.1 NTU.
Taste and colour can be removed with additional integrated treatments.
Dissolved metal and chemicals are not removed.

Feed water requirements

Trans Membrane Pressure : 30mBar (30 cm).
Recommended turbidity : < 600 NTU.
Recommended pH range : 6.5 to 9.
Temperature : 10 < 35°C.
Recommended TDS : < 500 ppm.

Materials

Cabinet : Marine grade aluminium coated in UV resistant polyester powder coat.
Pipe and valve : LDPE, MDPE, and PVC.
Water tank : 1000 litres food grade IBC tank.

Cleaning mechanism

Automatic self-cleaning every month.
or manual on demand as necessary.

Energy Supply

Solar panel with a small battery.

Recommended Location

A wide open space to charge the solar panel.
It sits on a 100 mm x 2 m^2 concrete foundation.

Training Opportunity

To ensure sustainable operation, LightWell International (LWI) engages and trains country partners to establish a local assembly partner, marketing and regional distribution for continuous joint development.

Designed & manufactured by

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