

# QUANTUM

PURITY



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 **theralux**

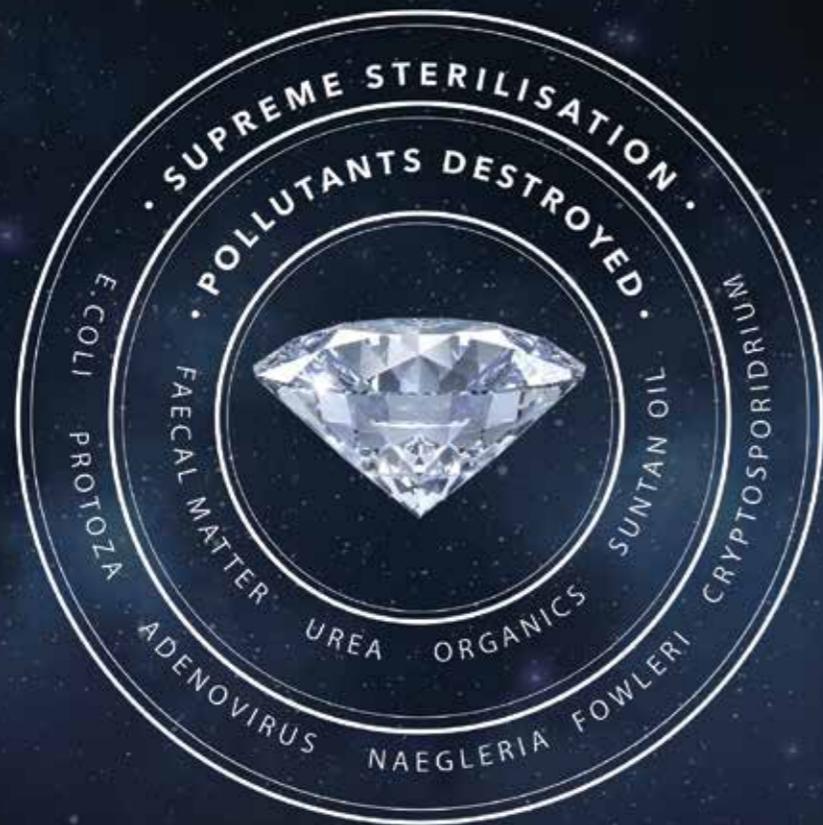
SUPREME WATER QUALITY

POOL WATER AT ITS BEST™



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## TAKE THE LEAP

Quantum uses state-of-the-art ceramic crystal technology: a prime focus of the science world today; Containing the power to sterilise sewage into potable water without the use of chemicals. One of the many benefits of the Quantum is the significant reduction of residual chemicals, such as chlorine or bromine.

Built to be installed easily and retrospectively into your existing

set-up, the Quantum is completely safe and significantly more powerful than chlorine, hydrogen peroxide, UV and ozone. Photocatalytic Oxidisation has an immensely powerful effect with the ability to instantaneously destroy viruses, bacteria and pathogens, in addition to possessing the ability to convert sun tan oil, urea and other contaminants back into their harmless molecular form.

Innovatively designed, Theralux have developed the first cost effective, photocatalytic oxidiser specifically for the swimming pool industry, for a toxin free swimming experience. Not only does it eliminate undesirable side effects such as sore eyes, itchy dry skin, discoloured hair and strong odours, it also prevents chlorine/ozone associated health conditions for bathers and swimming pool attendants.



## PRODUCT OVERVIEW



**Effective:**  
The only technology available with the ability to instantly destroy all viruses, bacteria and pathogens, and like no other device will break down oil and contaminants.



**Efficient:**  
Consumes no more electricity than a common light bulb, providing continuous savings.



**Powerful:**  
The sterilising effect of the Quantum photocatalytic oxidiser (PCO) exceeds the effects of boiling water.



**Easy To Use:**  
Comes pre-assembled with all necessary sensors and control components: no complicated parts to piece together. Average lamp life expectancy: 4 years.



**Clean:**  
Makes the water sparkle like diamonds in a way never seen before.

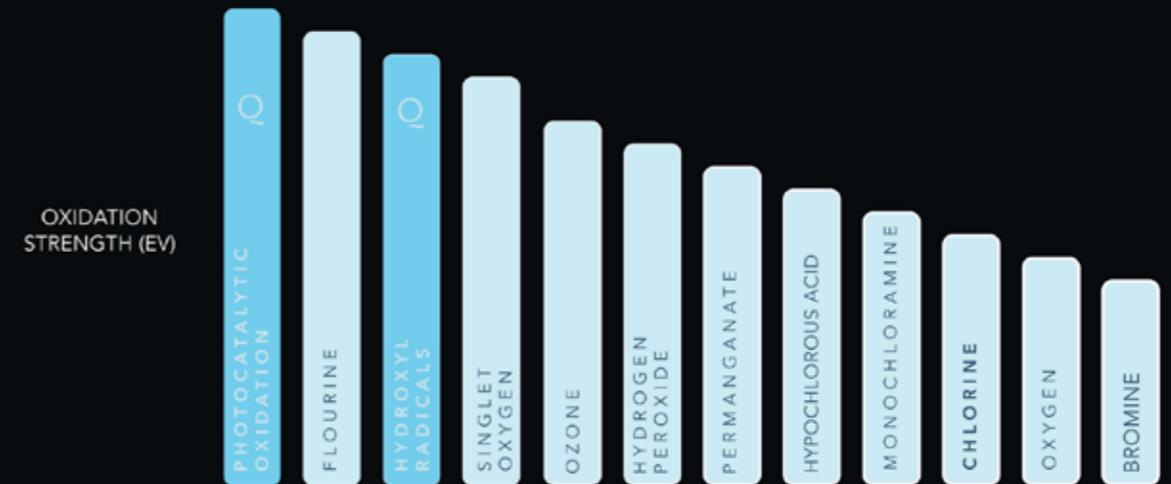


**Safe:**  
Keeping your family safe from chlorine, UV & Ozone resistant microorganisms.

### BUILT TO LAST A LIFETIME:

Corrosion resistant, regardless of any salt or chemical concentrations in the water. As the reaction surface is truly catalytic and therefore it is never consumed or altered.

## WHY QUANTUM?



With a wide range of products available on the market that offer a variety of technologies to sanitise swimming pool water, how do you decide what method is best for you?

The table above identifies some key players including chlorine, ozone, hydroxyl radicals, and photocatalytic oxidation at the top, as the strongest and most effective sterilisation agents in existence.

Sterilising swimming pools has always been a matter of finding a balance between using chemicals strong enough to destroy the most harmful germs that may cultivate in the pool, whilst at the same time limiting the negative impact of the treatment method on bathers. Currently chlorine is the most widely used sterilisation method. The side effects though can be irritation to the skin and eyes, and the inconvenience of continually topping up the dosage, chlorine and ozone are also known to release gas that hovers above the swimming

pool surface which can be hazardous to breathing. In contrast the photocatalytic oxidation reaction is contained within the reaction chamber releasing only pure, fresh water, clean enough to drink.

Quantum's advanced cleaning technology replicates nature's own technique for sterilising our planet, making it habitable. A photocatalytic oxidiser, known by scientists as "Nature's Silver Bullet," neutralises what chlorine, Ozone and conventional UV sterilisers cannot and achieves exponential reductions in unwanted bacteria, pathogens and viruses. Chlorine, ozone and UV are ineffective against *Naegleria Fowleri* and Adenovirus whereas photocatalytic oxidation has proved that nothing escapes it.

Built for ease of use - simply set and relax.

# HOW DOES IT WORK?

## Reaction 1: Quantum Photocatalytic Oxidiser (PCO)

Quantum works in a similar way to a car's exhaust system, where a catalyst uses the combination of heat and Platinum coated baffles to convert the poisonous gases coming from the engine into carbon dioxide and water.

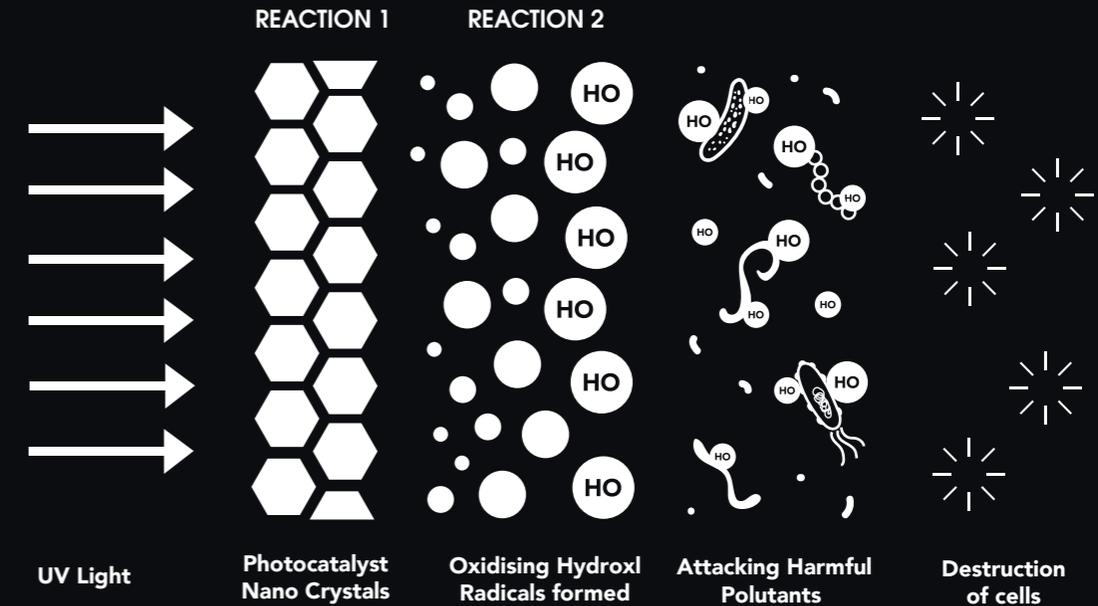
Quantum uses light as fuel to energise its sophisticated catalyst array, with rare elements including Anatase, Molybdenum and Platinum ceramic catalyst. The resulting reaction that takes place inside the Quantum has not only the power to consume any oils or organics present in the water, it also possesses the power to abundantly and momentarily split the water molecules into what are called Hydroxyl Radicals. The combination of effects equip Quantum with far more power to purify water than a chemical oxidising agent, such as chlorine or bromine.

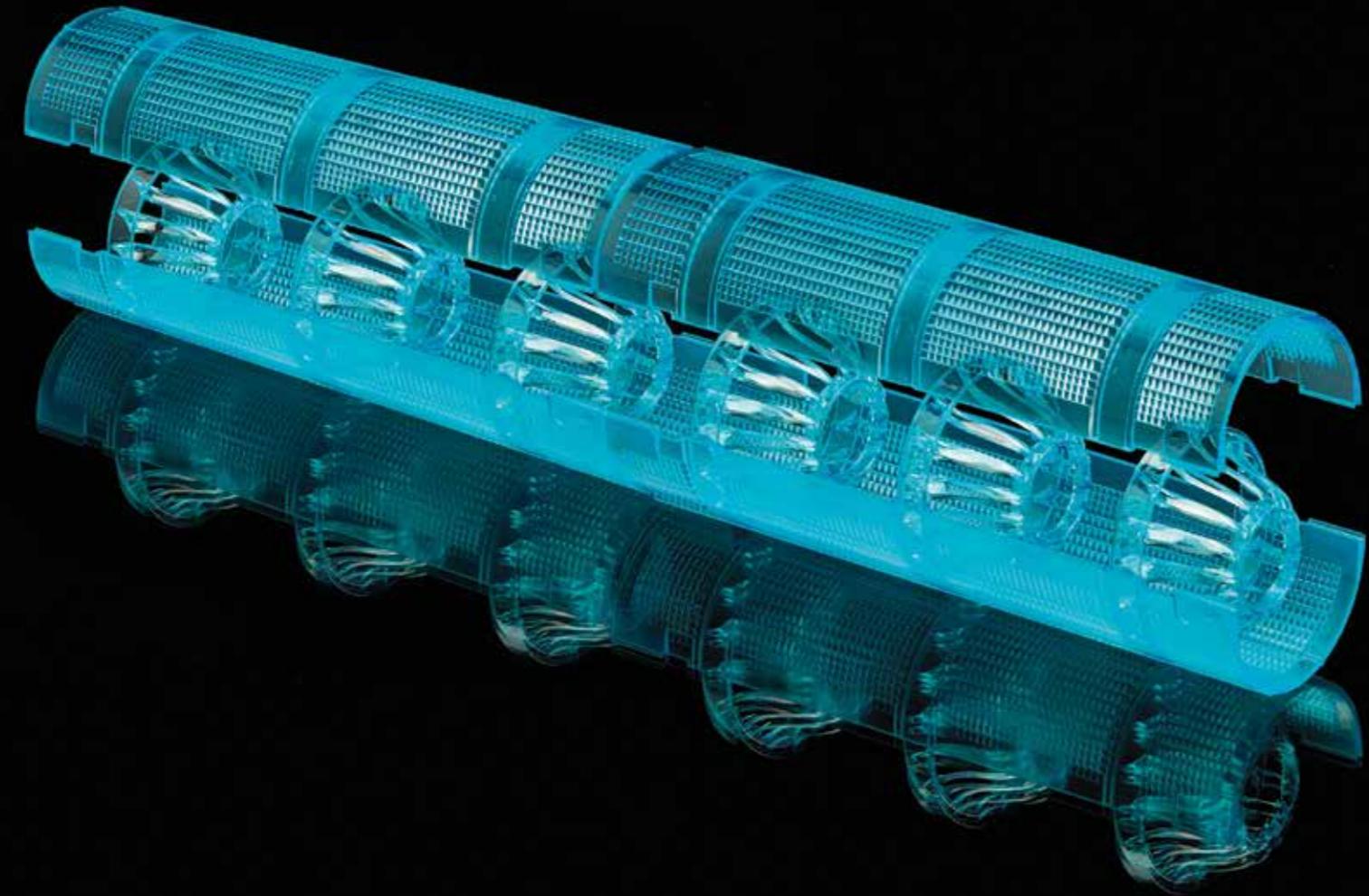
## Reaction 2: Hydroxyl Radicals (HO)

Hydroxyl Radicals are essentially a water molecule with a hydrogen atom removed, and a highly reactive, unpaired electron, caused by the PCO reaction, disturbing the electrons and forming holes in the valence band of the atom.

The exceptionally mobile molecules that fill the reaction chamber are highly volatile and able to destroy everything in their path. Once the Hydroxyl Radical has reacted with the pollutant it converts itself back into water.

It's true that Hydroxyl Radicals can be made in many ways, however instead of using more chemicals that are damaging to health, the Quantum utilises photocatalytic oxidation. This is the safest and most effective method against pollutants.





## INTELLIGENT FEATURE

The Quantum, uses the following features so you can sit back and relax:

Featuring:

- Flow Switch: The dosing will only be started when there is a consistent water flow being delivered to the unit.
- Analogue Lamp Life Indicator & Reset Switch

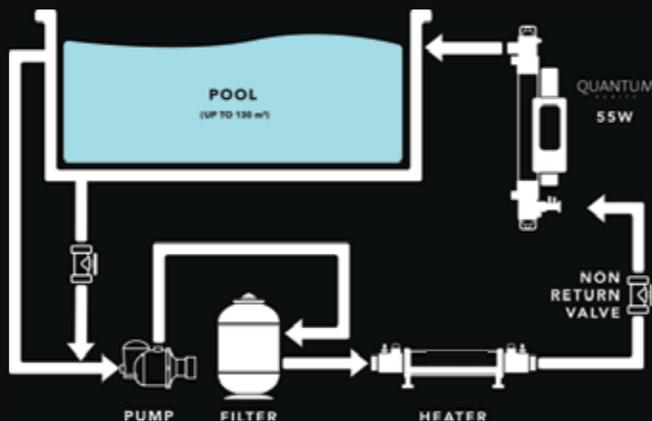
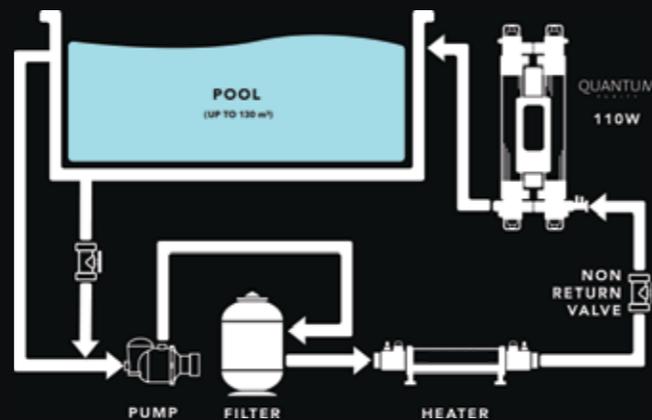
# INSTALLATION & SIZE GUIDE

The Quantum can be easily installed into your new or existing pool system. Compared to other products in the market, Quantum offers superior performance at reduced levels of power consumption.

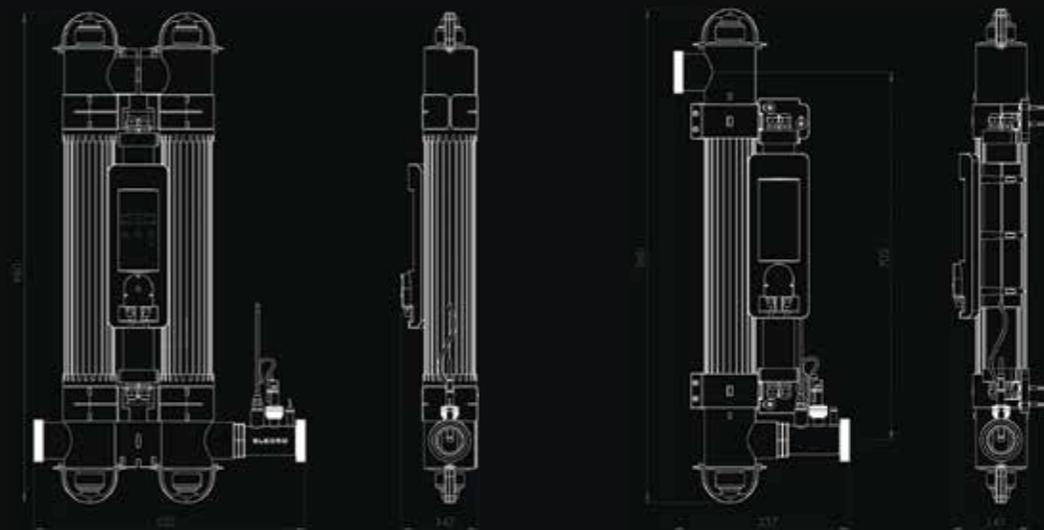
- Single tube (55w input) for up to 65,000 litres of swimming pool water.
- Double tube (110w input) for up to 130,000 litres of swimming pool water.

Installation is quick and easy using the pre-assembled threaded unions.

The Quantum is integrated with all controls, a flow switch and a lamp life indicator. Ensuring the pool owner has peace of mind, that they are choosing a natural, effective sanitiser that once installed requires no further maintenance.



# DIMENSIONS (MM)



## MODEL OPTIONS

All Quantum units are supplied complete with a flow sensor and an analogue lamp life indicator and reset switch.

Product Code	Lamp Output	Max Pool Volume	Features
theraq1055	55W	65m	Analogue Lamp Life Indicator & Reset Switch
theraq1011	110W	130m	Analogue Lamp Life Indicator & Reset Switch

## TECHNICAL SPECIFICATION

Voltage and frequency	220v - 240v 50/60Hz or 110v - 120v 50/60Hz
Maximum operating pressure	3 bar
Lamp	Low Pressure / High output
Minimum flow rate	4,000 litre per hour (4m /h)
Maximum pool size	Single Tube: 65,000 litres (65m <sup>3</sup> ) Double Tube: 130,000 litres (130m <sup>3</sup> )
Water connections	2" / 63mm stepped + reducers 1 1/2" 50mm
Salt Water	100% sea water safe
Oxidisation processes	Quantum photocatalytic oxidiser (PCO) & hydroxyl radicals (OH)



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