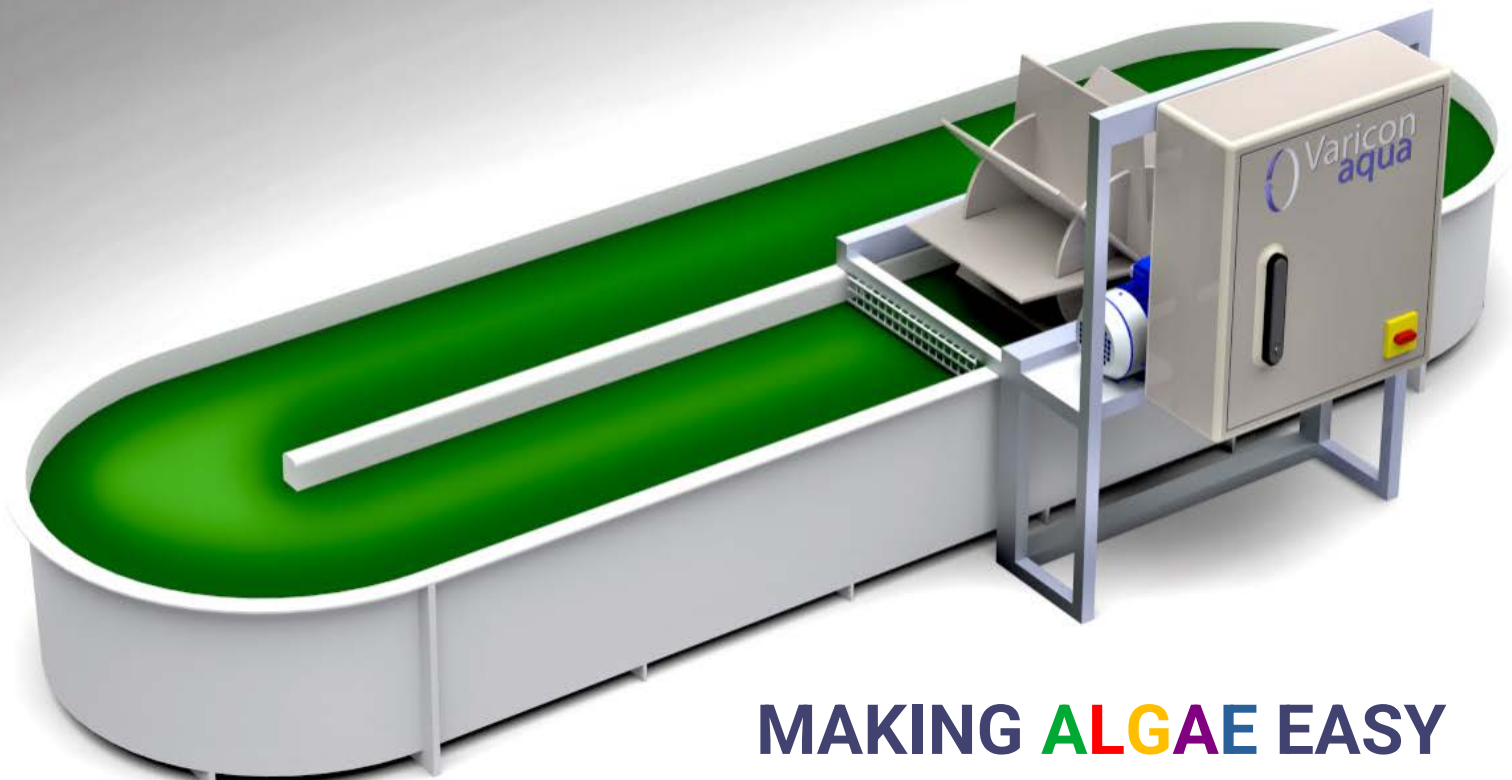


Phyco-Pond™



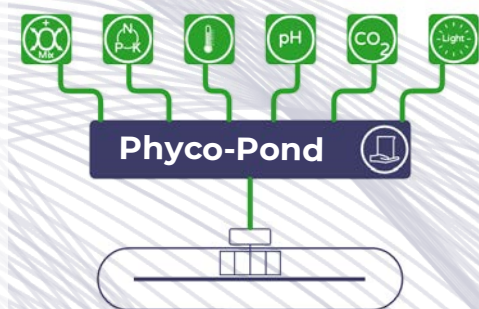
MAKING ALGAE EASY

Varicon Aqua is the manufacturer of the **Phyco™** range of photobioreactors with more than 30 years' experience designing, constructing and deploying **algal photobioreactors**, high rate algal ponds and aquaculture algae production systems worldwide. As a global leader in this sector our close client engagement and supply chain relationships allow us to provide bespoke photobioreactor and cultivation systems for a broad range of applications. To date we have deployed over 270 photobioreactor systems across the globe, ranging in scale from 5 L to 400,000 L. Prominent products in the Phyco™ line include **Phyco-Flow™**, **Phyco-Pond** systems, the **Phyco-Lift** and **Phyco-Bubble**.

The **Phyco-Pond** is a high-rate algal open pond (HRAP). The **Pond** is manufactured by Varicon Aqua according to optimised geometric considerations which impact rate of mixing, photosynthetic efficiency, power consumption and biomass yield. Smaller systems (0.1-1 m³) are fabricated from a fibreglass mould, whilst larger systems (>1 m³) comprise of a levelled and compacted solid matrix, onto which a steel support structure and impermeable geotextile is overlaid. The process flow is mixed via a motorised paddle wheel with adjustable speed, ensuring homogenous delivery of light, nutrients and carbon dioxide.

Phyco-Pond outline

All Phyco-Pond's has a variable motor speed controlled paddle wheel to ensure the correct mixing of the media and optimal exposure to light.



Specifications and performance

Physical Considerations	
Volume	0.1-500 m ³
Height	0.3-0.4 m
Shape	Optimised raceway (length-width-height)
Mixing	Paddle wheel
Electricals	Motor
Example Performance (details of other species available)	
Algae	<i>Chlorella sorokiniana</i> (species)
Density	0.1-0.3 g L ⁻¹
Productivity	0.01-0.08 g L ⁻¹ d ⁻¹
Max yield	0.35 g L ⁻¹
dO ₂	≤ 200 %
Engineering Performance (in house data)	
Liquid	0.2-1 m s ⁻¹ (max - velocity)
Reynolds	≥10 k (number)
Maximum	2,000 μ E m ⁻² s ⁻¹ (light)
Temperature	10-40 °C
Mass	~0.002 s ⁻¹ (max transfer coefficient)

Phyco-Pond configuration



Algae Production

In addition to our photobioreactor systems we also specialise in providing the auxiliary equipment for process monitoring and control, LED solutions and downstream processing.

As a one-stop shop for algae production we have a full range of nutrient mixes from our **Cell-Hi All-in-One** line.

Our guarantee.

As with all Varicon Aqua systems we pride ourselves on the high level of after sales support we provide to our clients whether it's a systems issue or a technical production question. We are highly approachable. Come talk to us about your needs!

MAKING ALGAE EASY