

# LIQUINEX

## **Compact Water Treatment System**



# River Water Treatment System for Lembaga Air Perak



**System Capacity – 30m<sup>3</sup>/hr**  
**Tender value RM\$1.8M**



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# REC DBOO PROJECT

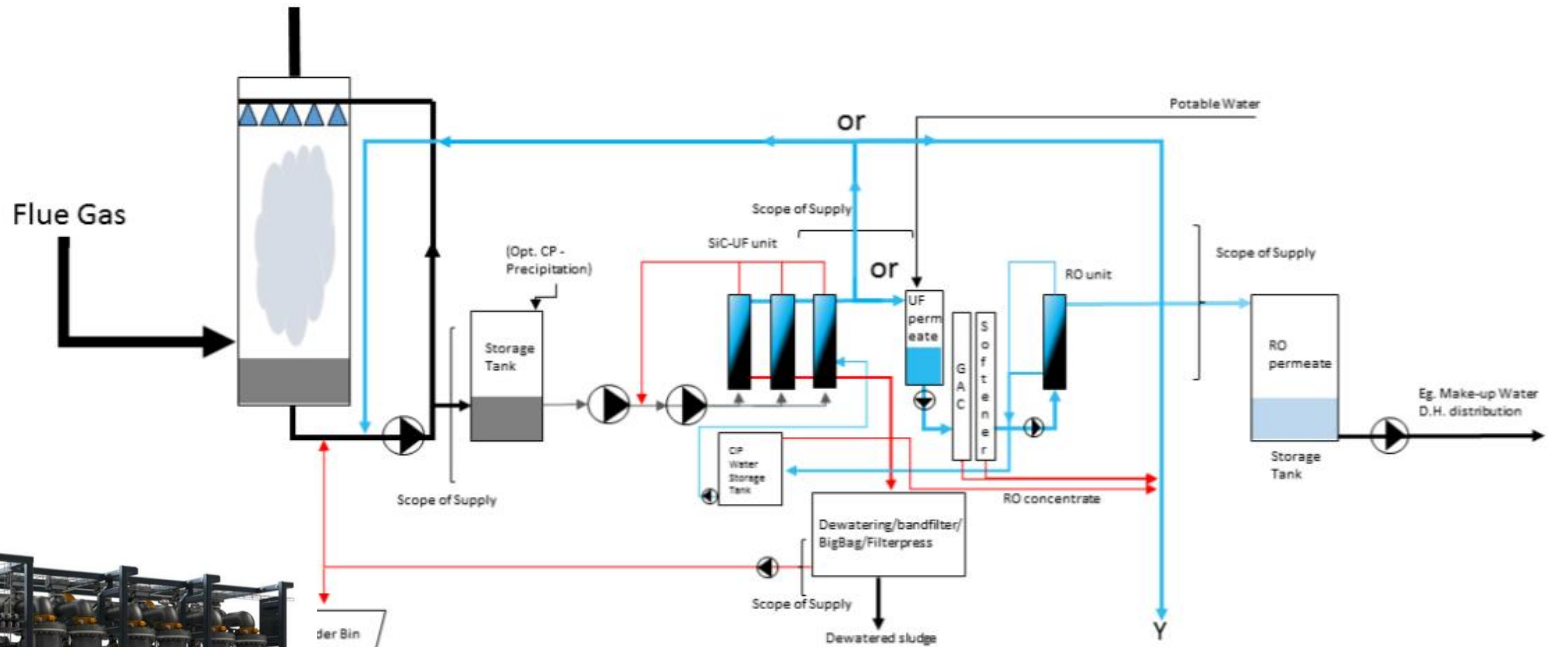


**System Capacity – 40m<sup>3</sup>/hr**  
**System Price : SGD\$600K**

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# Closed Loop Scrubber System

- **Condensate reuse / safe discharge / cost reduction**
- Ultra Filtration Unit with LiqTech's proprietary SiC membranes – Removal of heavy metals and particles
- Activated Carbon Filter, GAC – Removal of dissolved organic compounds and PAH's
- Softening Unit – Hardness removal prior to RO
- RO, reverse osmosis Unit – Desalination, removal of dissolved minerals and metals >98,5 %



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# CUSTOM CAPACITY AND CONFIGURATIONS

The Liquinex scrubber waste water system can be manufactured for any size requirement starting from 1 m<sup>3</sup>/hour to any feed flow, and different configurations depending on specific applications.



**System Capacity – 20m<sup>3</sup>/hr**  
**System Price SGD\$400K**

The system can be configured to be automatic or semi automatic minimizing human intervention during operation. Additional options include remote monitoring and control system. Our engineers will assess your plant specifications in order to recommend the appropriate capacity and configuration.

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# SEA WATER REVERSE OSMOSIS SYSTEM



LQX-SWRO10T

LQX-SWRO50T

For illustration - Actual System may vary

**System Capacity – 10m<sup>3</sup>/day**  
**System Price SGD\$15-20K**  
**depending on specs**

**System Capacity – 50m<sup>3</sup>/day**  
**System Price SGD\$70-90K**  
**depending on specs**

## Standard Features

- Seawater RO membrane
  - 8040/4040 cartridges
  - Ultrafiltration Membrane
  - Membranes skid mounted
  - Multi-cartridge or Bag prefilter
  - 20" RO guard filter
  - Electrical control panel with PLC and DOL/ Frequency Controller\*
  - Feed and High Pressure Pumps
  - Manual and Electrical Solenoid
  - Control Valves
  - Pressure Gauges and Flow Meters
  - Permeate TDS Meter
  - Steel frame, PVC & Stainless
  - Steel Piping
  - C.I.P setup with Tank\*
- \*Varies from model to model

# River Water Treatment for Communities



Liquinex designed a compact and portable river water treatment machine for the communities with little access to clean water. With self cleaning capability and without the need to replace any parts periodically, the system require minimal maintenance and can be operated easily by briefly trained non-technical person.

**System Capacity – 15-20m<sup>3</sup>/day**  
**System Price SGD\$20K to \$25K**  
**depending on specs**

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# Results from Demonstrations

SAMPLE	UNIT	WHO STD	DOE STD B	RAW WATER		WASTE WATER	
				BEFORE	AFTER	BEFORE	AFTER
Kekeruhan (test #1)	NTU	<300	-	182	0.32	152	8.1
Kekeruhan (test #2)	NTU	<300	-	-	1.77	-	-
Warna (Hazen)	-	<15	200 ADMI	-	-	65	5
Aluminium	mg/l	<0.2	15	-	-	0.800(L)	0.089
Iron	mg/L	<0.3	5.0	1.90	0.01	1.57	0.11
Manganese	mg/L	<0.1	1.0	0.293	0.001	0.036	0.012



# Containerised Water Treatment System



A containerised waste water treatment system designed to minimise the amount of waste water generated from offshore plant pipe cleaning operations. Due to the nature of the waste water generated by these operations, the waste water can not be discharge to the ocean and must be disposed by engaging specialised chemical disposal companies. The cost of such disposal is determined the volume of water disposed. The system by Liquinex can reduce the amount of volume by about 90%, therefore eliminates a significant portion of disposal cost.

**System Capacity – 10m<sup>3</sup>/day**  
**Combined UF+RO Price SGD\$50-70K**  
**depending on specs**

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# Compact Algae Harvester



The Liquinex Algae Harvesting system allows for extraction of microalgae cells from water. Micro algal biomass are commonly used in the field of energy, nutraceuticals, pharmaceuticals, etc. For example, extraction of algae oil to be used for biodiesel or DHA source. The system employs measures to prevent clogging and fouling by the algal cake.

In other application, the system can be used for clearing water bodies from algae blooms, which has become more common due to global warming.

**System Capacity – 10m<sup>3</sup>/day**

**Rental Price SGD\$3K /mth**

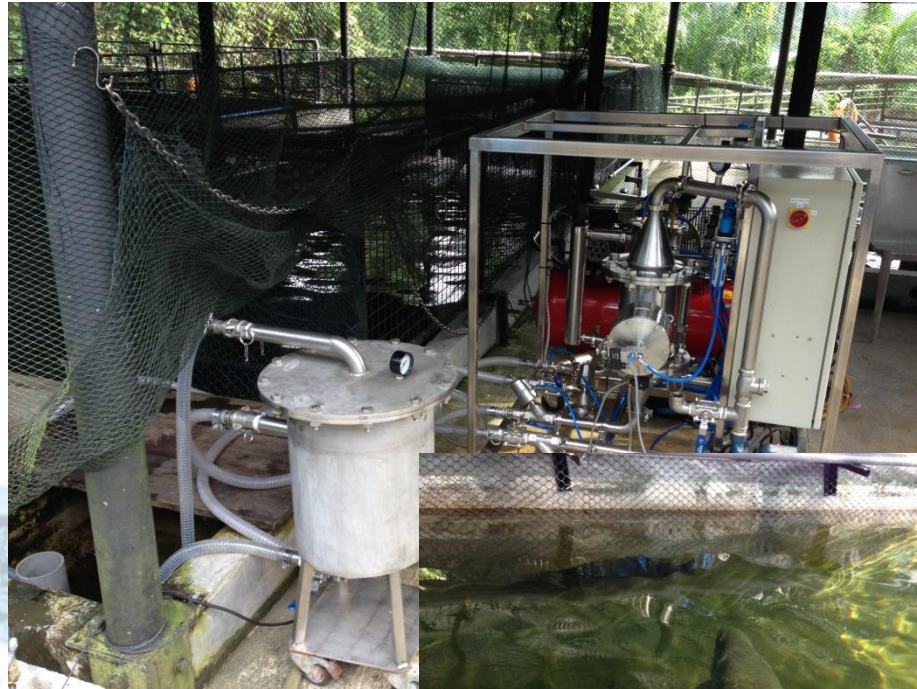
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# Aquaculture Application



Before



After

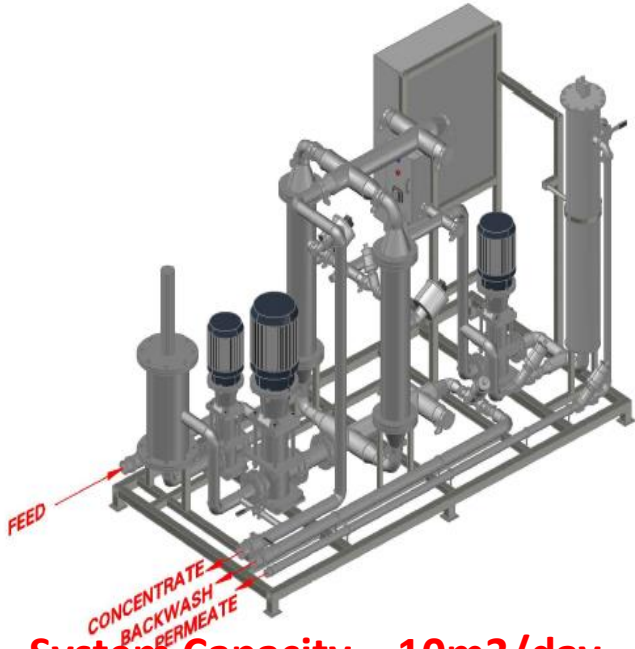


**System Capacity – 1m<sup>3</sup>/hr**  
**Rental Price SGD\$3K /mth**

A system for keeping the aquariums, fish tanks, or aquaculture tanks from excrements, bacterias, impurities, and algae. The system was employed at the River Safari at Singapore Zoo. Sand filters are the more conventional method for dealing with fish tanks, however the limitations are it requires large amount of space, requires manpower to periodically replace the sand, and huge amount of water to flush the sands, to reduce clogging.



# Oil-Water Separator



**System Capacity – 10m<sup>3</sup>/day**

**Customised System Price SGD\$200K**



Liquinex provides an efficient oil and water separation system. Waste cleaning companies dealing in Marine and offshore related operations will normally have to deal with oil mixed with water. Normal oil water separation involves skimming the oil from water surface. However it will not recover the oil that is emulsified within the water. Liquinex oil and water separation system allows for the efficient separation and water that is emulsified in the water. The Liquinex oil and water separation is also applicable to other industries, such as Food & Beverage industry or Mining.



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# Swimming Pool System



A water treatment system for swimming pools that requires very little maintenance and only 1/3 of the space required for common swimming pool water treatment system.

With this system, it is capable of maintaining water quality without the use of chlorine.

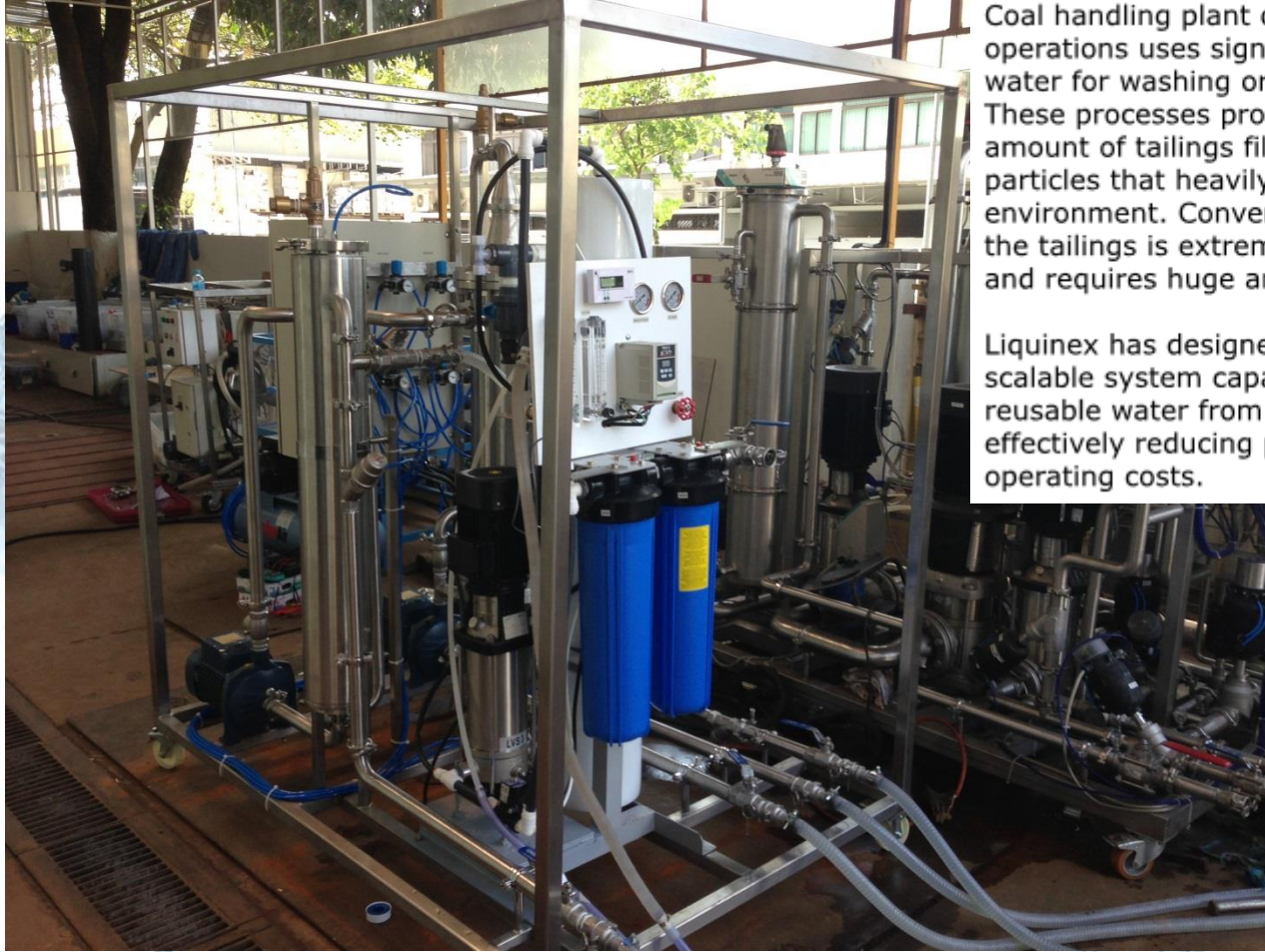
The system shown is installed at Civil Aviation Authority Singapore, pilot training pool.

**System Capacity – 100m<sup>3</sup>/hr**  
**System Price SGD\$200K - \$250K**  
**Depending on scope**

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# Compact Mining System



Coal handling plant or mineral mining operations uses significant amount of water for washing or ore extraction. These processes produce massive amount of tailings filled with coal or sand particles that heavily pollutes the environment. Conventional treatment of the tailings is extremely inefficient and requires huge amount of space.

Liquinex has designed a compact and scalable system capable of recovering reusable water from the tailings, effectively reducing pollution and operating costs.

**System Capacity – 30m<sup>3</sup>/day**  
**Combined UF+RO System Price SGD\$80K**

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# Rice Water Recycling System – Eng Bee Foods



The rice washing process in rice noodle factory is a highly water intensive process and produces significant amount of pale white starchy waste water. A system for recycling and reuse of water produced from rice washing in a noodle making factory.

Liquinex system is capable of efficiently recovers reusable clean water from the waste water. The water recovery and reuse significantly reduces the amount of water used in the factory process.

**System Capacity – 10m<sup>3</sup>/hr**  
**Combined UF+RO System Price SGD\$250K**

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# Combined Ultra-Filtration and RO Systems for Industrial Water Recycling



Liquinex provided a custom engineered solution for a chemical drum supplier in Singapore. The company produces chemical contaminated water from washing waste chemical drums which they will resell.

The water treatment system reduces the amount of water needed and recycle it for reuse.

**System Capacity – 15m<sup>3</sup>/day**  
**Combined UF+RO System Price SGD\$120K**

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# Ceramic membrane UF System For Cooling Tower Systems @ REC Solar



**System Capacity – 20m<sup>3</sup>/hr**  
**System Price SGD\$280K**



**System Capacity – 10m<sup>3</sup>/hr**  
**System Price SGD\$220K**

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Water solution - Any situation, anytime, anywhere...

**System Capacity – 25m<sup>3</sup>/day**

**System Price SGD\$30K-40K depending on specs**

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