

# LOTUS WATER TREATMENT

Full Design & Installation & supplying & (O&M)  
**Water and Wastewater treatment Plants**

Environmental studies and systems

**Certified consultant office**

تصميمات متكاملة

توريد وتركيب وتشغيل وصيانة محطات معالجة المياه و الصرف

دراسات و أنظمة بيئية

بيت خبرة معتمد

Lotus Water treatment



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- Our company created after the Egyptian Revolution 2011.
- Our staff has worked in international companies in the field of water treatment, also participated in projects with international companies such as Procter and Gamble (P&G) , Unilever , Pepsi-Cola , CEMEX , Savola Group (United Sugar) and Khalda Apache Petroleum , Petrofac power plants Nubaria and Kurimat , San Stefano mall , City Stars mall and Four Seasons Hotel ..... Etc.

## **Our Clients**

### **Lotus Water Treatment carried out and propose for these projects**

- Coptic Hospital Cairo Water treatment Unit.
- Mabara Hospital Cairo Water treatment Unit.
- Trust Company Cairo Water treatment Unit.
- European Company for processing intestines Alex. Free Zone Industrial waste Water treatment Plant.
- Sara Company for processing intestines Alex. Free Zone Industrial waste Water treatment Plant
- HSBC Bank Head Office Cornish El- Nil Maadi, Cairo Disinfection.
- Plaza Company Located in Gamasa Industrial Zone (Water Unit).
- Four seasons Bldg. Cairo Cooling tower sub. With Identity Co.



- IWWTP CPC Nobria (1) 50 CMD
- IWWTP CPC Nobria (2) 70 CMD
- SWRO Blue Blue SOKHNA 400 CMD
- IWWTP FOX GLOB 40 CMD 6<sup>TH</sup> OCTOBER
- SWRO AROMA RESIDEINCE SOKHNA 700 CMD
- SWRO ZHRAA NORTH COST 150 CMD
- STP ZHRAA NORTH COST 150 CMD
- COOLING TOWER PROGRAM ASEC CEMENT – EL MINIA
- SWRO NEW MANSOUR 1500 CMD- E. ADEL SAWY
- TTP MARSA MATROH – DR. HMDY ABD ELSALAM 1000 CMD
- IWWTP PHAROS CO. MINISTRY OF DEFENCE SOHAG FACTORY 50 CMD
- SWRO BLUE STARS RESORT 500 CMD
- IWWTP RICH BEAK 60 CMD – SADAT CITY
- IWWTP AI WDI CO. BELBISE FACTORY 50 CMD
- IWWTP CIMA FACTORY – CAIRO 50 CMD
- IWWTP MANTRAC 50 CMD – BADR CITY
- IWWTP EL NAKHLA TOBACCO FACTORY 25 CMD (SUB. CONTRAC. NILE CO.)
- IWWTP FOOD LOVERS CO. 240 CMD – OBOUR CITY
- IWWTP RICH FOOD CO. 120 CMD – OBOUR CITY
- CAR GILL EGYPT – ALEX. – SUPPLING DEMI WATER

- محطة معالجة صرف صناعي القاهرة للدواجن -النوبارية (١) ٥٠ متر مكعب يوم
- محطة معالجة صرف صناعي القاهرة للدواجن -النوبارية (١) ٧٠ متر مكعب يوم
- محطة تحلية قرية بلوبلو العين السخنة ٤٠٠ متر مكعب يوم
- محطة صرف صناعي مصنع فوكس جلوب طلاء معادن ٤٠ متر يوم - السادس من أكتوبر
- منتجع اروما السياحي العين السخنة محطة تحلية ٧٠٠ متر يوم
- محطة تحلية قرية الزهراء الساحل الشمالي ١٥٠ متر يوم - م. هاني هلال
- محطة معالجة صرف قرية الزهراء الساحل الشمالي ١٥٠ متر يوم - م. هاني هلال
- مصنع اسمنت اسيك المنيا معالجة أبراج تبريد
- محطة تحلية مياه مشروع المنصورة الجديدة ١٥٠٠ متر يوم - م. عادل الصاوي
- محطة معالجة ثلاثية للصرف ١٠٠٠ متر يوم - مرسى مطروح - د. حمدي عبد السلام
- محطة معالجة صرف صناعي شركة مصر العليا جهاز المشروعات مصنع سوهاج ٥٠ متر يوم
- محطة تحلية قرية بلوستارز راس غارب ٥٠٠ متر يوم
- محطة معالجة صرف صناعي مصنع ريتش بيك السادات ٦٠ متر يوم
- محطة معالجة صرف صناعي شركة الوادي مصنع بلبيس ٥٠ متر يوم
- محطة معالجة صرف صناعي شركة سيما مصنع السواح ٥٠ متر يوم
- محطة معالجة صرف صناعي شركة منتراك مصنع بدر ٥٠ متر يوم
- محطة معالجة صرف صناعي مصنع النخلة قويسنا ٢٥ متر يوم (باطن شركة النيل)
- محطة معالجة صرف صناعي مصنع فوود لفرز - العبور ٢٤٠ متر يوم
- محطة معالجة صرف صناعي مصنع ريتش فوود - العبور ١٢٠ متر يوم
- شركة كارجل مصر - اسكندرية توريد مياه مقطرة

## سابقة اعمال مشروعات تحلية من الباطن

R.O	مصنع ميدو للدهانات الحديثة	برج العرب
R.O	مصنع كنزى للصناعة	برج العرب
R.O	مصنع زيور كيم للدهانات	برج العرب
R.O	قرية جزر ميامي السياحية	مرسى مطروح
R.O	فندق غزاله ريجنسى	الضبعة
R.O	مصنع الحايس للحلويات	طريق بلبيس
R.O	مزارع البيومي للأبقار	جمصه
R.O	مزارع كوهيه للدواجن	جمصه
R.O	مزارع الدسوقي للدواجن	الواحات - بلبيس
R.O	مصنع الحايس للحلويات	طريق بلبيس



## سابقة اعمال استشارية مشروعات بيت الخبرة

دراسة	مدينة السادس من أكتوبر مجمع CPC	شركة الجمل للمنسوجات
دراسة	مدينة السادس من أكتوبر مجمع CPC	شركة الخبير لإنتاج البانيو الاكرليك
دراسة	الزوامل بلبس	الشركة المصرية الامريكية للفحم
قياسات بيئية	برج العرب الإسكندرية	مصنع غنيم للأدوية ومستحضرات التجميل
دراسة	القاهرة الجديدة	شركة بيتا كيم للكيماويات
دراسة	مدينة السادات	شركة عفيفي للصناعات المعدنية
دراسة	مدينة بدر	AMG مصنع الفحم
دراسة	أبو رواش الجيزة	شركة شافي لتصنيع الأثاث المعدني
دراسة	أبو رواش الجيزة	شركة شافي لتصنيع فوانيس السيارات
تقارير بيئية	القاهرة الجديدة	شركة كامل فهمي للكيماويات
تقارير بيئية	السادس من أكتوبر	الشركة العالمية للتصنيع
قياسات بيئية	مدينة بدر الصناعية	شركة تورينو لمنتجات الكاوتشوك مصنع ١٧٩
قياسات بيئية	مدينة بدر الصناعية	شركة تورينو لمنتجات الكاوتشوك مصنع ١٩٥
قياسات بيئية	المنطقة الصناعية السويس	شركة كيناوف
قياسات بيئية	العاشر من رمضان	الشركة المصرية الإيطالية
قياسات بيئية	العاشر من رمضان	شركة ABB
دراسة	مدينة بدر	الاسراء فارما سيوتيكال
قياسات بيئية	الدقي	مستشفى الزراعيين

LOTUS make Design for this Industrial wastewater treatment Plants.

- Rich Foods for preserved meat Located in Al – Obour City
- Oil & Soape Factory Located in Al – Obour City
- Al Sharq Company for preserved meat
- Located in Al – Obour City
- Arma Oil
- Subcontractor from Reedj Wood Co..
- Mepaco Company for Medicine
- Located in Inshass Al- Ramel, Sharqia
- Shrouk Co. for Textile
- Located in Industrial Zone Bader City
- Trans Africa Garments
- Located in Port Saied free Zone
- Hamouda Factory Feed protein
- Located in Tenth of Ramadan Industrial Zone.
- Harvest Foods Factory
- Located in Zone 3, lot 65 – 6th October City, Cairo , Egypt.
- Plaza Company for Metal Industries.
- Located in Gamasa Industrial Zone.
- El Nakhla Tobacco Factory
- Located in Menofya Industrial Zone

## KHALDA Apache Company - Khebry .1


Located in Western Desert

\*\*\*Make Design for these Projects

- MS GROUP COMPNY DANDY MALL
- Located in Pyramids Heights, Giza, Egypt
- Water treatment system.
- Dana Gas
- Located in five settlement
- Filtration system for city water Plant
- Vista Marina
- Located in North Coast Marsa Matrouh
- Sewage treatment plant
- Vista Marina
- Located in North Coast Marsa Matrouh
- RO plant.
- Rosanna village
- Located in North Coast – Alex.
- RO plant.
- Atiaf tiba co.
- Located in North Sini Sheikh Zoied
- RO. plant.



**"Lotus water treatment" Agree and commit to deliver the design for the following water treatment plants:**

- Saudi Arabia, Hail
  - Desalination projects
  - Torbah 1 & 2
  - AlKaed 1 & 2
  - Torabeiah
  - Nasereiah
  - Quleibah
  - Fajr
- 
- We can also try to minimize the running cost of your unit (IWWTP)
  - We have coagulant and flocculent.
  - Also make another helping system as anti-foam system.
  - Disinfection system.
  - Chlorination system.
  - Oxidation system.

**\*Installations Field:**

**Installation and supplying:**

- Sewage and Industrial Wastewater Treatment units According to The Egyptian Environmental law.
- R.O. units for Salts Removal from different kind of Water Resources.
- Filtration systems for water purification (Sand, Ultra and Activated Carbon Filters).
- Softening units (Softeners).
- Iron and Manganese removal units.
- Chemicals dosing pumps with different Capacity.

**\*\*Supplying Field:**

- Chemicals supply.
- Corrosion Inhibitors water and oil soluble.
- Biocides, Bactericide and Algaecide Agents.
- Rust Remover, Rust Converter.
- Scale and Corrosion Inhibitors for Boilers, Cooling Towers and Chiller.
- **Sorbents and spill containment products**

**\*\*\*Operations and Maintenance Field:**

- All Water treatment Plant.
- Sewage and wastewater Treatment plants.
- IWWTP. Industrial Waste Water treatment Plant.
- R.O. units for Salts Removal from different kind of Water.
- Disinfection and Cleaning for Water Tanks.
- Chemical cleaning for Chillers, Boilers and Cooling towers.



## Water Desalination Plants

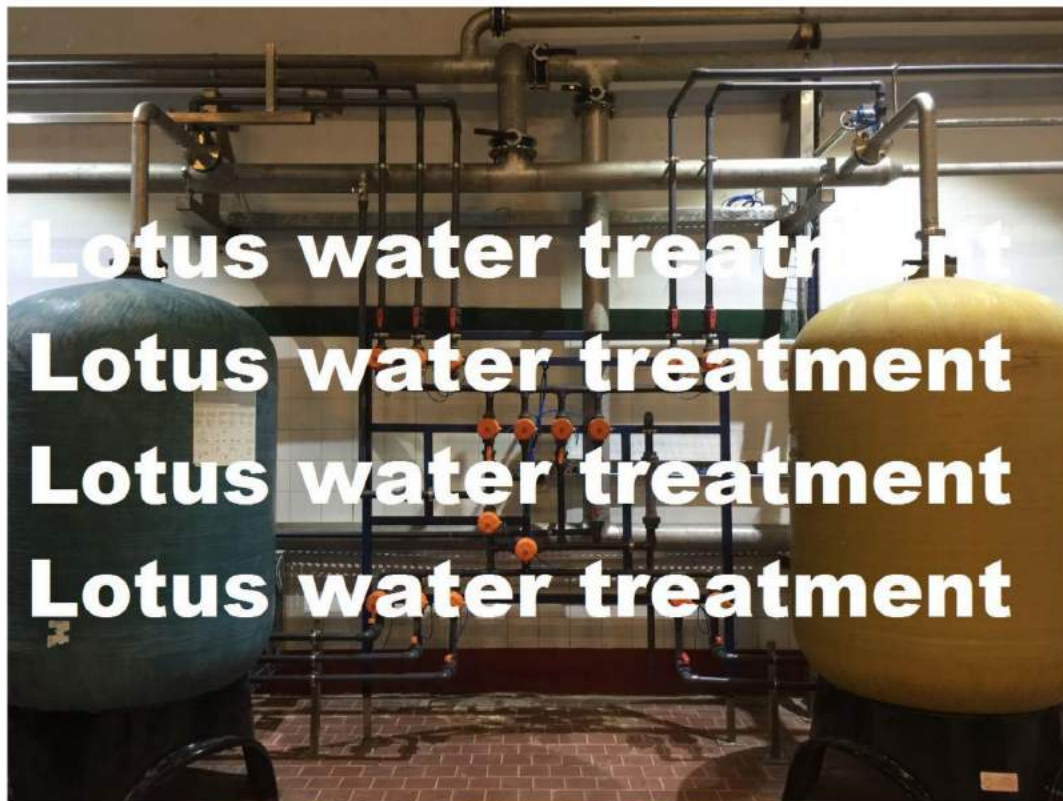
### Reverse Osmosis



**Reverse Osmosis** – Osmosis is a natural process. When a semi permeable membrane separates two liquids of different concentration, the fluid has a tendency to move from low to high solute concentrations for chemical potential equilibrium. Formally, reverse osmosis is the process of forcing a solvent from a region of high solute concentration through a semi permeable membrane to a region of low solute concentration by applying a pressure in excess of the osmotic pressure.



## Demineralized Water Plants



**Demineralization** – Deionized water also known as Demineralized water is water that has had its mineral ions removed. Mineral ions such as Cations of sodium, calcium, iron, copper, etc. and anions such as chloride, Sulphate, nitrate, etc. are common ions present in water. Deionization is a physical process which uses specially-manufactured ion exchange resins which provides ion exchange site for the replacement of the mineral salts in water with water forming  $H^+$  and  $OH^-$  ions

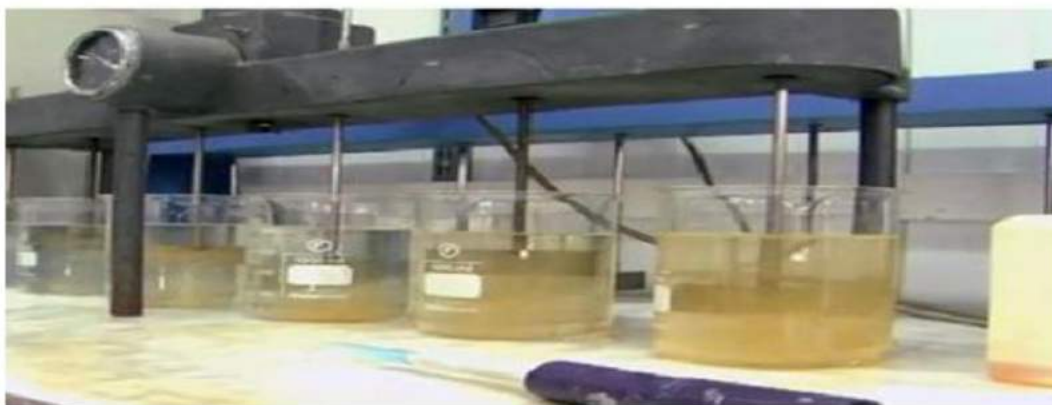
## Softeners Units



صابون مضاف إلى ماء مقطر (يسار) و إلى ماء عسر (يمين)



**Water Softening** – When water contains a significant amount of calcium and magnesium, it is called hard water. Hard water is known to clog pipes and to complicate soap and detergent dissolving in water. Water softening is a technique that serves the removal of the ions that cause the water to be hard, in most cases calcium and magnesium ions. Iron ions may also be removed during softening. The best way to soften water is to use a water softener unit and connect it directly to the water supply. A water softener is a unit that is used to soften water, by removing the minerals that cause the water to be hard with the mode of Ion Exchange process





## Filtration Plants

**Filtration** –The process of filtration involves the flow of water through a granular bed, of sand or another suitable media, at a low speed. The media retains most solid matter while permitting the water to pass. This type of slow filtration over a granular bed is generally known as slow sand filtration. It is the oldest method of filtration but still widely used in municipal water treatment plants & for industrial application as well.

More modern filtration systems use carbon as the main constituent material of the filter. This carbon is compressed into a solid block form, as opposed to the more loosely structured, granular, sand filters.



Such filters often include other media substances, in addition to the compressed, solid carbon. This type of water filter is known as a multimedia filter. These filters clean water through both physical and chemical processes. Physically, they perform the same function as slow sand filters, blocking the passage of unwanted materials with molecular structures that are larger than water. Chemically, the carbon or multimedia filters perform an added filtration function.

## Effluent Treatment

**Effluent Treatment** –The Effluent treatment plant is designed to treat the effluent coming from different areas of the plant. Effluent Treatment Plants or ETPs are to purify water and remove any toxic and non effluent-treatment-plant toxic materials or

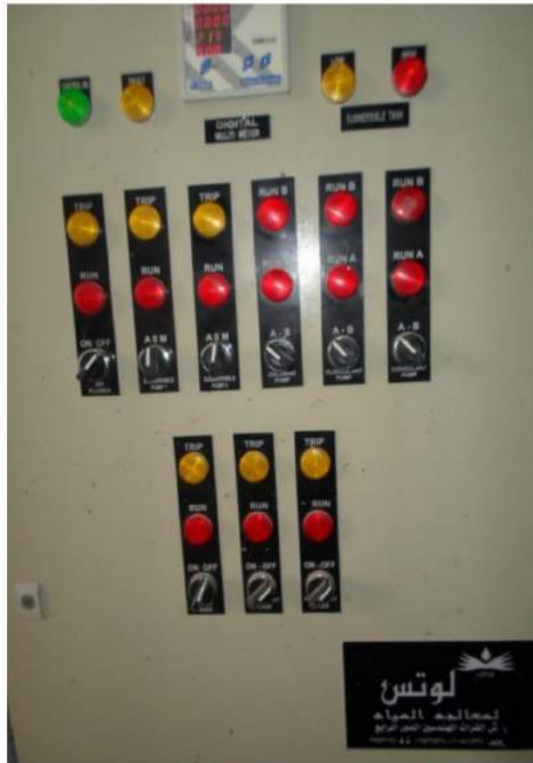


chemicals from it. These plants are used for environment protection. An ETP plant is a plant where the treatment of industrial effluents and waste water is done. Effluent treatment is basically waste treatment. The ETP plants are used widely in more or less all type of process industries to reduce BOD, COD, suspended solids & other contaminants from waste water. The effluent water treatment plants are installed to reduce the possibility of pollution.



LOTUS  
WATER TREATMENT





>>>



Control Panels for IWWTP Carried out

by Lotus Water treatment







## Sewage treatment,

**Sewage treatment, or domestic wastewater treatment** - is the process of removing contaminants from wastewater and household sewage, both runoff (effluents) and domestic. It includes physical, chemical, and biological processes to remove physical, chemical and biological contaminants. Organic wastes, suspended solids, bacteria, nitrates, and phosphates are pollutants that commonly must be removed.

Sewage Treatment Plant, or domestic wastewater treatment, is the process of removing contaminants from wastewater and household sewage, both runoff (effluents) and domestic. The task of designing and constructing facilities for treating wastewaters falls to environmental engineers. They employ a variety of engineered and natural systems to get the job done, using physical, chemical, biological, and sludge treatment methods. Its objective is to produce a waste stream (or treated effluent) and a solid waste or sludge suitable for discharge or reuse back into the environment.



## Membrane Bioreactor

**Membrane Bioreactor** - Bioreactors are reactors that convert or produce materials using functions naturally endowed to living creatures. Reactors using immobilized enzymes, microorganisms, animal, or plant cells and those applying new methodologies such as genetic manipulation or cell fusion are typical bioreactors. Bioreactors differ from conventional reactors as living organisms present in the reactors operate under milder conditions of temperature and pressure. The ranges of operating conditions within bioreactors are usually determined by the biocatalyst (organism) and are usually small.

Membrane Bioreactor (MBR) systems essentially consists of combination of membrane and biological reactor systems. These systems are the emerging technologies, currently developed for a variety of advanced wastewater treatment processes.



## CHILLERS, COOLING TOWERS & BOILERS

### Chiller

#### Basic Cooling Cycle

The basic cooling cycle is the same for both vapor-compression and absorption chillers. Both systems utilize a liquid refrigerant that changes phase to a gas within an **evaporator** which absorbs heat from the water to be cooled.

Transferring the heat energy from the water to be cooled into the refrigerant gas. The warm refrigerant gas is then sent back to the compressor to start the cycle over again and the newly chilled water in the separate loop can now be used for cooling.

### Cooling Towers

The heat energy absorbed by the chiller needs to be rejected out of the system and into the atmosphere. Evaporative heat rejection devices called **cooling towers** are typically used to lower the water temperature in large chiller systems.

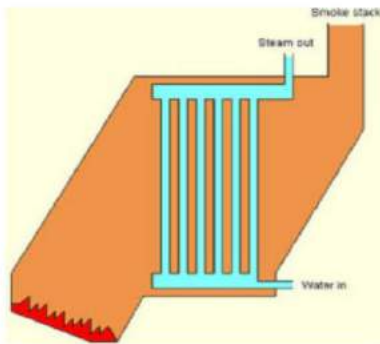
### Boilers

#### WATER CHEMISTRY

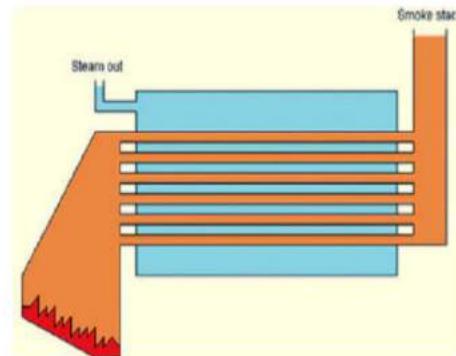
- pH
- Alkalinity
- Hardness
- Chlorides
- Conductivity
- Cycles of concentration



## Water Tube



## Fire Tube



A "natural circulating" boiler is the most prevalent type of water tube boilers. However, natural circulation cannot be used in all cases. Natural circulation is a result of the difference in densities between water and water - steam mixture. When the pressure of a unit reaches or exceeds 200 bar the differentials between water and steam become too small to establish proper circulation.

## DISINFECTION AND CLEANING FOR WATER TANKS







## Supplying



## **Sub. Pump**

## **Dosing pump**





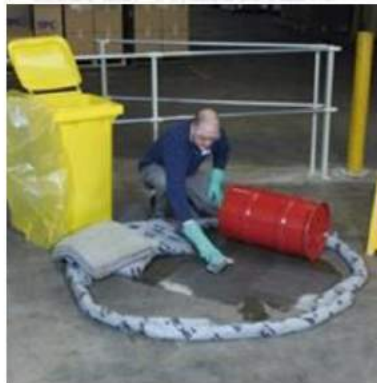






## SORBENT PRODUCTS

Depend on these sorbents and spill containment products to keep your work areas clean and safe from virtually any spill, leak or drip.



As our growth and commitment to the sorbent marketplace continues, so too will the importance of the relationship we have with our customers, to offer the best quality line of products and service available on the market today and in the future.





## Spill Control Products

Our absorbents & spill control products help you keep your employees and work environment safe from unexpected spills, leaks, drips or other accidents. Our absorbents are available for cleaning up oil, water and chemical based spills.

## Oil Only Sorbents

Oil Only Absorbents provide users with a durable, high performance absorbent for cleaning up petroleum-based spills and leaks. these oil absorbent pads have proven to absorb liquids and repel water.

## Booms

Oil only sorbent booms are used for cleaning up large petroleum-based spills and leaks.



a premium oil sorbent boom with a diameter of 13 cm that is used to absorb and contain oil spills on water. Floats even after saturation. Strong, durable white outer sleeve keeps the absorbent material intact within the boom. Inner rope provides strength when deploying and retrieving the boom. Four staple clips at critical stress area add strength and prevent the boom from splitting during retrieval. Metal clips and rings allow linking of multiple booms.

