

Falcon Egypt for Water Treatment Systems: Pioneering Sustainable Water Solutions

Water scarcity is one of Egypt's most pressing challenges, exacerbated by population growth, industrial demand, and climate change. In this critical landscape, Falcon Egypt for Water Treatment Systems (WTS) has emerged as a leader in providing innovative and sustainable water treatment solutions. Founded in 1998 by Professor Dr. Mohamed Fikry, an internationally recognized expert in water treatment technologies, the company has expanded its operations across Egypt, delivering high-quality chemical treatments, filtration systems, and wastewater management solutions.

This article explores Falcon Egypt WTS's history, mission, scope of work, and contributions to Egypt's water security, alongside the country's national water management strategy.

Company History: Growth and Expansion

Falcon Egypt WTS began in 1998 as an agent for American Falcon International WTS, a globally recognized chemical company based in Florida, USA. Initially specializing in water

treatment chemicals for industrial applications, the company quickly expanded its services to include:

- Steam & hot water boilers
 - Cooling towers & chilled water systems
 - Reverse osmosis (R.O.) desalination plants
 - Wastewater and sewage treatment plants
 - Filtration systems (sand, carbon, softeners)
 - Delivering industrial chemicals
 - Delivering test nits dosing pumps and measurement devices
 - Delivery all type of filtration and softening systems such as Sand, carbon, green sand filter and softeners with all sizes.
- To serve Egypt's industrial hubs, Falcon Egypt WTS strategically opened multiple branches:
- Minia (2008) – Covering Upper Egypt (Beni Suef, Assiut, Sohag)
 - Alexandria (2010) – Serving Borg El Arab, Nobaria, Kafr El Dawar
 - Mansoura (2014) – Covering Delta governorates
 - Port Said (2016)– Supporting the Suez Canal industrial zone

Today, Falcon Egypt WTS serves industries such as fertilizers, cement, plastics, textiles, and airport, while also addressing environmental challenges through wastewater treatment plants and regulatory compliance.

Visionary Leadership: Professor Dr. Mohamed Fikry

At the heart of Falcon Egypt WTS is Professor Dr. Mohamed Fikry, an esteemed consultant with over 35 years of experience in water treatment technologies. His expertise spans boiler water treatment, cooling towers, reverse osmosis (R.O.), and wastewater management.

Dr. Fikry has authored more than 15 international research articles published in leading journals, contributing significantly to advancements in water treatment science. His vision for Falcon Egypt WTS was to establish a company that not only provides cutting-edge solutions but also aligns with Egypt's long-term water security goals.

“Our leadership in water chemistry since 1998 stems from solving the industry's most complex challenges. Customer confidence is earned through relentless problem-solving—whether in a 10 m³/hr pilot plant or a 1,000 m³/hr industrial system,” Prof. Dr. Mohamed Fikry, expressed

This predictive capability allows for proactive maintenance, preventing costly and disruptive water main breaks. Moreover, Fracta's AI system continually learns and improves over time, enhancing its predictive accuracy as more data is integrated. This success underscores AI's transformative potential in traditional industries, demonstrating that it can deliver tangible benefits and drive innovation.

Securing Egypt's Water Future: Challenges and Strategic Solutions

Egypt faces a significant water management challenge, requiring an estimated \$900 billion by 2037 to ensure water security for sustainable development. The country needs 114 billion cubic meters (BCM) of water annually, mainly for agriculture, but currently receives only 60 BCM from the Nile and groundwater. This shortfall will likely increase due to the Grand Ethiopian Renaissance Dam and climate change. The Minister of Water Resources and Irrigation has called for substantial long-term investments in water infrastructure, advanced farming techniques,



Prof. Dr. Mohamed Fekry

Chairman of Board of Directors

and improved drainage systems. The national water plan aligns with the 2030 Vision and involves nine ministries focusing on key areas:

• Water Purification and Recycling

This includes managing industrial effluent. In 2015, indirect reuse of wastewater in the Nile Delta was 9.31 BCM, with a target of increasing this to 16.26 BCM by 2037. However, high contaminant levels in untreated wastewater led to the closure of several mixing pump stations, preventing the reuse of approximately 2.37 BCM per year. To address this, the government is upgrading wastewater treatment from secondary to tertiary levels, incorporating sand filtration and chlorination to enhance water quality.

• Rationalizing Agricultural Water Consumption

The government aims to reduce water loss through advanced irrigation techniques and the use of water-efficient seeds. Traditional flood irrigation practices lead to significant evaporative losses and soil damage. Initiatives include promoting smart irrigation and lining irrigation canals to minimize water infiltration losses.

• Increasing Water Resource Availability:

New projects such as coastal desalination plants and rainwater harvesting systems are planned. By 2030, the government aims to boost water resources by 1.5 BCM through desalination, with plans to double this by 2037. Additionally, expanding collaboration with Nile Basin countries is a priority.

Falcon Egypt WTS: Comprehensive Water Treatment Solutions

Falcon Egypt WTS is a leader in industrial and municipal water treatment, offering end-to-end solutions to optimize efficiency, sustainability, and regulatory compliance. Our expertise spans:

- The intersection of artificial intelligence (AI) and Steam & Hot Water Boilers– Advanced chemical treatments to prevent scaling, corrosion, and microbial contamination.
- Cooling Towers– Customized solutions for scale inhibition, biofouling control, and water conservation.
- Chilled Water Systems– Antifreeze and corrosion protection for HVAC and industrial cooling applications.
- Wastewater & Sewage Treatment– Design, construction, and operation of treatment plants (1–1000 m³/hr), including tertiary filtration and disinfection.
- Reverse Osmosis (R.O.) Desalination – Brackish and seawater treatment systems (1–1000 m³/hr) for industries and municipalities.
- Equipment Supply – Dosing pumps, R.O. spare parts, and automation systems.
- Filtration Systems – Water softeners, sand filters, and activated carbon filters for purification.
- Treatment Media – Cationic/anionic resins, mixed beds, anthracite, gravel, and specialty activated carbon.
- Testing & Monitoring– Chemical test kits, digital analyzers, and on-site water quality assessments.

- Consultation & Training– Feasibility studies, system audits, and operator training for sustainable water management.

By integrating cutting-edge technology with decades of expertise, Falcon Egypt WTS ensures reliable, cost-effective, and eco-friendly water solutions tailored to Egypt's evolving needs.

Proven Industry Expertise

Falcon Egypt WTS has a strong track record in delivering high-performance water treatment solutions for leading industrial clients across multiple sectors. Their successfully executed projects include:

- Steam Boilers – Serving Nile for Oils and Detergents (a major player in manufacturing), Al-Majid Group (fertilizers), and 480+ industrial companies, ensuring efficient heat exchange and corrosion prevention.
- Cooling Towers – Optimizing systems for Foodico (food industry), Cairo Airport (Terminal 3), and 58+ facilities to enhance water efficiency and reduce scaling/biofouling.

- Chilled Water Systems– Implementing solutions for Vacancies Institute, Egypt Gardens (food processing), and 81+ sites, ensuring stable cooling operations with minimal water waste.

- Reverse Osmosis (R.O.) Stations– Custom desalination plants for Al-Tounsy Plast Group, Vienna Cosmetics, Luna Cosmetics, and 65+ clients, providing high-purity water for industrial processes.

- Wastewater Treatment – Designing and building treatment stations (1–1000 m³/hr) for international firms like Naturub Egypt (Sri Lanka), Plaza Garments (India), Polymer Plast(Syria), and 50+ Egyptian companies, ensuring compliance with environmental standards.

With cross-sector experience and scalable solutions, Falcon Egypt WTS combines engineering precision with sustainable practices to meet diverse industrial water challenges.

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