

Culligan®



REFERENCE BOOK
INDUSTRY



Culligan®

Culligan, the water treatment professionals



Culligan, was founded in 1936, and is a global leader in water treatment for homes, offices and industries. Culligan designs, engineers and manufactures water treatment equipment and formulates and blends water treatment chemicals to create pure, safe, healthy water for every need.

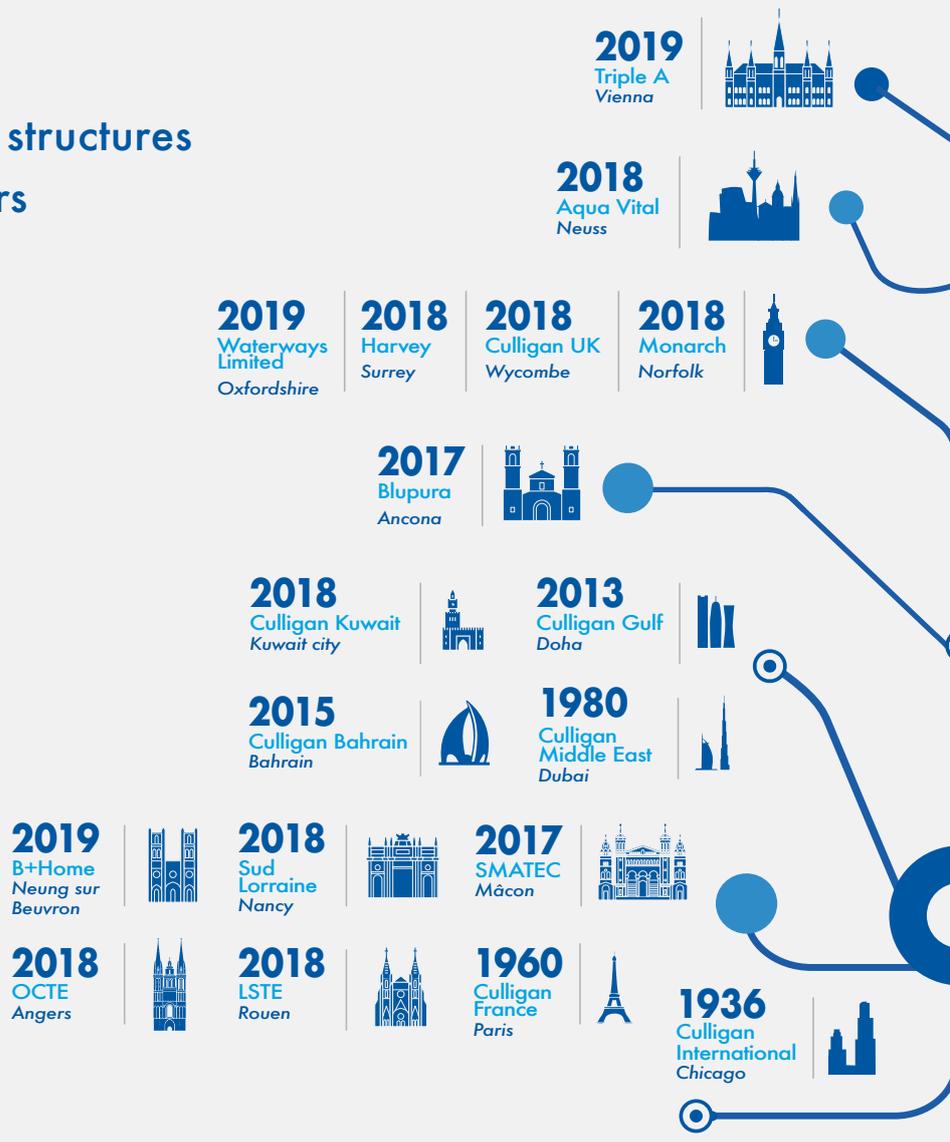


Whether it is for soft water for your shower, pure drinking water from your kitchen or office tap, carafes of purified water in your favourite restaurant, and, all the way through to ultra pure water for medical use or water used as part of the product in the food and beverage industry – Culligan has a solution.

In Culligan, we love water since 1936.

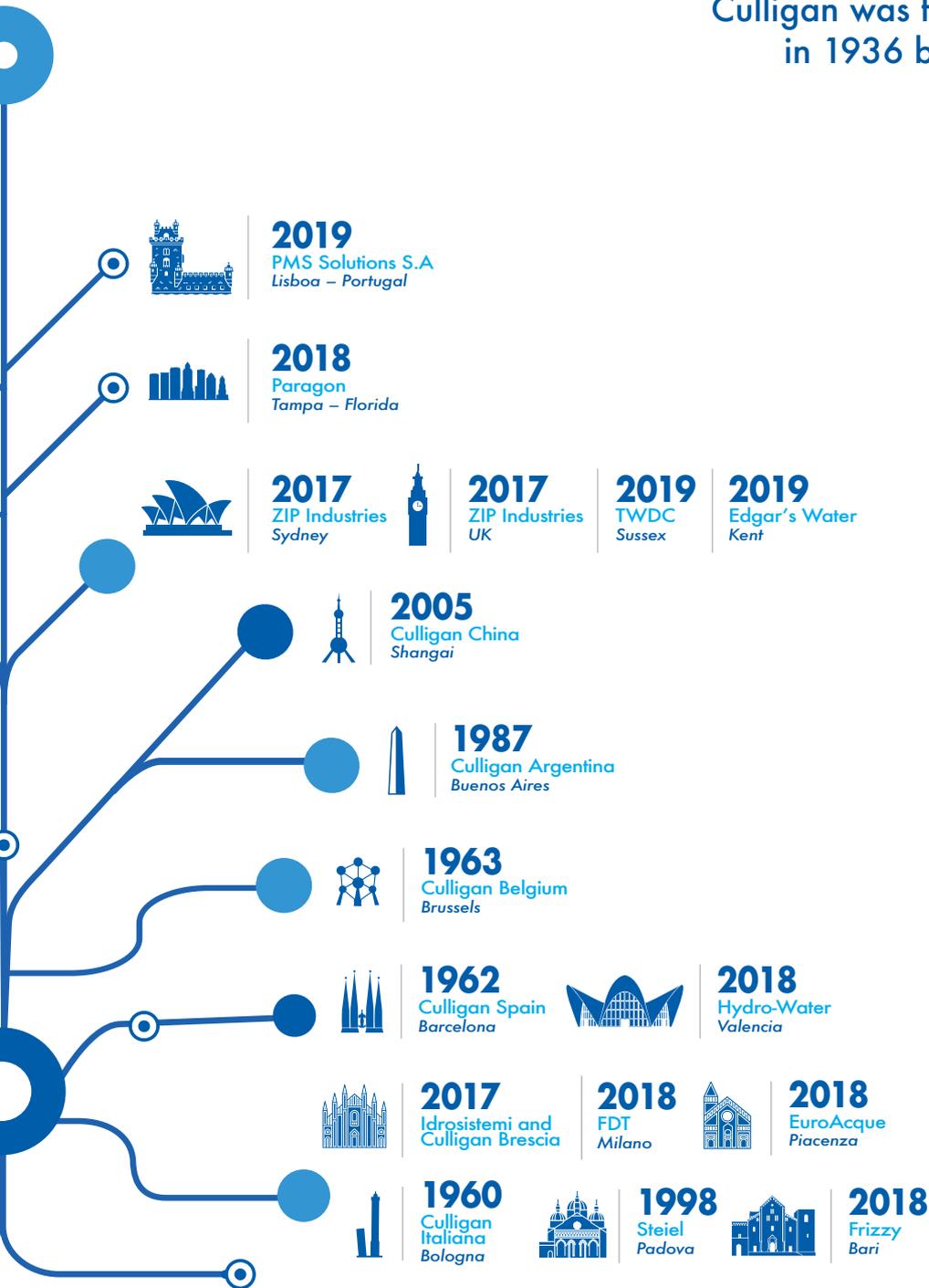
Culligan international

90 Countries
900 Dealerships
15 Direct company structures
3 Million Customers



Culligan is a truly global company that prides itself on providing consistent high quality water across the world. Whether you are drinking tea made from a Zip instant boiling Hydrotap in Australia, pure office water from a

Culligan was founded in Illinois, USA in 1936 by Emmett Culligan



cooler in Argentina or drinking water through the municipal pipe network in Kigali, Rwanda, you are guaranteed the same high quality and renowned Culligan service. Culligan technicians serve over 3 million customers worldwide.

Sectors We are Serving

Culligan, the water treatment professionals

Culligan, was founded in 1936, and is a global leader in water treatment for homes, offices and industries. Culligan designs, engineers and manufactures water treatment equipment. Culligan formulates and blends water treatment chemicals to create pure, safe, healthy water for every need.



WATER FOR THE HOME

Culligan supplies softened water and high purity drinking water to millions of homes worldwide. Culligan supplies under sink drinking water systems to give pure water from the tap. Chilled, sparkling and instant boiling water straight from your kitchen tap. Then, the china and glasses will sparkle and the hair and skin will feel amazing.



WATER AT WORK

The employees can have access to high quality drinking water every day. Culligan has a full range of drinking water solutions all designed, engineered and manufactured in-house. Culligan manufactures high quality units to ensure the best quality of chilled, sparkling and boiled water constantly available. Backed up by Culligan's worldwide service network.



WATER FOR RESTAURANTS

Culligan Water on tap in the restaurant is an ideal way to service the valued customers, save cost and protect the environment. Great tasting water, pure clear ice, reduced scale and iron build up, easier cleaning, less detergents usage and softer brighter linens— a total Culligan water solution.



WATER FOR LEISURE

Culligan designs, engineers and produces systems for public pools, private pools, spas and resorts. Culligan invented the HCF filter that cleans the water 20/30x greater than a traditional sand filter with no backwashing, saving energy, water usage and chemicals.

Sectors We are Serving

90 Countries
900 Dealerships
15 Direct company structures
3 Million Customers



WATER FOR CRUISE SHIPS

Culligan designs, engineers and produces custom water treatment solutions which are installed in over 160 cruise ships like the largest cruise ship in the world. Culligan provides the entire ship water system. Whatever the use, wherever in the world, the water quality on the cruise will be to Culligan standards. Cruises are more relaxing and enjoyable.



WATER FOR HOTELS

Culligan customers in the hospitality industry can realize substantial benefits by using treated water in boilers, hot water heaters, cooling towers, food service, laundry, and services. Culligan's water treatment systems help uphold quality standards, while adding value to the business.



WATER FOR INDUSTRY

Water impacts every part of the industrial value chain. In the beverage industry, water of different qualities is required for cooling water, boilers for steam generation, bottle washing, machine sanitization and water to be part of the product. From oil refineries, to breweries which use water for the product composition as well as washing and sanitisation, Culligan has the full range of equipment and speciality chemicals to cover every application.



WATER FOR HEALTHCARE

Doctors, nurses and patients, get more than just great-tasting water from Culligan systems. Culligan supplies and services every water need of hospitals - cooling water, boiler water, water for hydrotherapy pools, full solutions for restaurant and canteen, drinking water, treatment and recycling for laundry and all the clinical needs.



WATER FOR VILLAGES, TOWNS, CITIES

Hundreds of municipalities have chosen Culligan filtration systems. Culligan has unique high rate reactor filters called OFSY, which are able to reliably treat highly variable turbid river water, with a significantly reduced footprint and limited civil construction.

Some of Our References



Industrial



Municipal



Containerized
Solutions



Healthcare



Hospitality



Marine



WATER FOR INDUSTRY

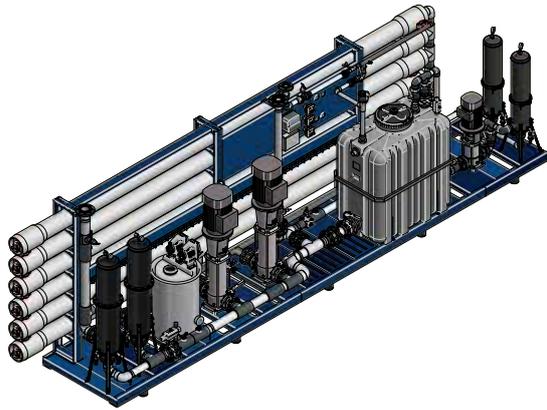
Water impacts every part of the industrial value chain. In the beverage industry, water of different qualities is required for cooling water, boilers for steam generation, bottle washing, machine sanitization and water to be part of the product. From oil refineries, which will process more water than oil, to breweries which use water for the product composition as well as washing and sanitisation, Culligan has the full range of equipment and speciality chemicals to cover every application. Culligan services, operates and maintains all water assets ensuring maximum productivity and enabling the meeting of sustainability goals.

Culligan Water will meet your highest expectations.



- 1** **INLET WATER TREATMENT**
- 2** **WASTE WATER TREATMENT**
- 3** **WASTE WATER REUSE**
- 4** **PRE-TREATMENT OF COOLING WATER AND BOILERS**
- 5** **PROCESS WATER TREATMENT**
- 6** **FOOD SERVICE**

RECYCLING WATER



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Tobacco Company |
| LOCATION | Bologna, Italy |
| APPLICATION | Recycling water |
| TREATMENT PROCESS | Reverse Osmosis |
| CAPACITY | 1200 m ³ /day |
| RAW WATER SOURCE | Waste Water |
| PROJECT CONTENT | 2x Hi-Flo 9 UF 54" 2x Hi-Flo 9 UR 54" 1x IW-EVO 40 |

A very important tobacco company with the highest priority to reduce the impact on the environment has decided to improve the water circle in the production plant to minimize water consumption. This multinational corporation works with a green approach and, therefore, water is one of the most important matters to be addressed. **The equipment supplied by Culligan treats the wastewater coming from an existing MBR plant (Membrane Bio Reactor).** Designed to handle approx. 50 m³/h of water deriving from biological treatment, the plant produces 37.5 m³/h of osmotic water, with a recovery of 75% and a salts reduction in conductivity and TDS of about 97%. The plant works 24/7 and consists of a multimedia sand filtration section, Hi-Flo 9 UF 54" in parallel, to remove suspended solids after coagulant injection; a section with granular active carbon filters, Hi-Flo 9 UR 54" in parallel, for chlorine and organic matter residuals removal; a special two-stage IW-EVO reverse osmosis system with installed 36 membranes in each train. The process is controlled with on line enabled instruments, measuring and monitoring the main operating parameters (hardness, conductivity, pH, chlorine..); a control panel with power board and 15" graphic operator panel complete the supply. **The treated water feeds technical utilities like cooling towers, steam boilers, etc., thus allowing water reuse in the production cycle.** The project has met the customer's needs of reducing environmental impact and **confirms Culligan ability to carry out important projects in water reuse.**



180 - 288 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | Spa Trebon |
| LOCATION | Trebon, Czech Republic |
| APPLICATION | Recycling Water |
| TREATMENT PROCESS | Filtration, Ultrafiltration, Carbon, UV sterilization |
| CAPACITY | 180 - 288 m ³ /day |
| RAW WATER SOURCE | Swimming Pool Salt Water |
| PROJECT CONTENT | 2x Pump Grundfos CRTE 2x sand filters 30" FRP 1x ULF Culligan 30, 2x activated carbon filter 24" FRP 1x UV 40 S |

25.000 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | Municipal Sewage Treatment Station |
| LOCATION | Chernyahovsk, Kliningrad region, Russian Federation |
| APPLICATION | Post Treatment after Biological Treatment of Sewage |
| TREATMENT PROCESS | Filtration |
| CAPACITY | 25.000 m ³ /day |
| RAW WATER SOURCE | Municipal Sewage |
| PROJECT CONTENT | 6 X HMS A 220 Basic c.No. 761716 2 X PCD 761554 |

300 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | Binghatti Beverages |
| LOCATION | UAE |
| APPLICATION | Process water, Water for catering, Effluent recycling |
| TREATMENT PROCESS | Filtration, Steam sterilization, Reverse Osmosis, Membrane BioReactor (MBR), Chemicals |
| CAPACITY | 300 m ³ /day |
| RAW WATER SOURCE | Municipal Water |
| PROJECT CONTENT | Auto Screen - Odor control dosing sytem - DAF Feed Pump - pH correction Dosing sytem - Coagulant Dosing System - Flocculant Dosing Sytem - Nutrient Dosing Sytem - DAF unit - Aeration Blower - MBR unit - MBR Permeate pump - Sludge transfer pump - Ro unit |

BOILER AND CHILLED WATER



| PROJECT DETAILS | |
|-------------------|--|
| CUSTOMER | SKD SpA |
| LOCATION | Algeria |
| APPLICATION | Boiler and Chilled Water |
| TREATMENT PROCESS | Filtration, Reverse Osmosis |
| CAPACITY | 500 m ³ /day |
| RAW WATER SOURCE | Sea Water |
| PROJECT CONTENT | 2X Containerized Seawater RO Plant (1st Stage SW 20 EVO + 2nd Stage IW24 EVO with PLC) |

In September 2017, the Culligan dealer in Algeria, Aquatec, won a public tender to supply to containerised seawater RO units of 500 m³/day each.

Culligan has more than **a dozen fully operational plants** in Algeria and a **strong reputation for quality and service**. So when the power plant operator was having problems with their existing seawater treatment plant, they turned to Culligan, through Aquatec for a solution. Due to space constraints, **Culligan’s expertise in containerised solutions** was required, designing a double pass RO turning seawater into high purity power station grade boiler feed water.



960 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|------------------------------|
| CUSTOMER | Endesa |
| LOCATION | Chile |
| APPLICATION | Boiler and Chilled Water |
| TREATMENT PROCESS | Filtration, Demineralization |
| CAPACITY | 960 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 2x NRC 100 2x AMB 80 |

1.344 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | Hilla Karbala - Ministry of Electricity |
| LOCATION | Iraq |
| APPLICATION | Boiler and Chilled Water |
| TREATMENT PROCESS | Filtration, Reverse Osmosis, EDI |
| CAPACITY | 1.344 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 4x HI-FLO UF 72 2x IW 59 K 2x EDI 56 PLC/SCADA control panel |

480 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | Acegas Aps |
| LOCATION | Trieste, Italy |
| APPLICATION | Boiler Water for Steam Turbine |
| TREATMENT PROCESS | Filtration, Ro ² , EDI |
| CAPACITY | 480 m ³ /day |
| RAW WATER SOURCE | Public Water |
| PROJECT CONTENT | 3x HF9 UF 48 2x IW ² 10 2x EDI 100 |

DRINKING WATER



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Louvre Museum |
| LOCATION | Abu Dhabi, UAE |
| APPLICATION | Drinking Water |
| TREATMENT PROCESS | Filtration through sediment filter and activated carbon |
| CAPACITY | 30.000 l/year |
| RAW WATER SOURCE | Municipal Water |
| PROJECT CONTENT | 3x biorefreshes hot cold and ambient 3x sediment filter with activated carbon |

The Louvre Abu Dhabi was inaugurated in November 2017. Culligan was appointed to **supply water treatment systems for domestic water, chilled water and brackish water**. The installation was completed in about 3 months but was not done by Culligan who acted as the equipment supplier and supervised the installation by the main contractor. Since its beginning in 1993, Culligan’s reputation in the Middle East has only grown. The **quality of our products**, our **reliable after-sale service** and our **competitive price** played an important role in Culligan appointment to this project. Culligan also provided the Louvre Abu Dhabi museum a **service contract** to maintain the equipment in good condition and ensure the quality of the water. The Bio-Refresh water dispensers were provided after the museum opening, at the end of 2018.

The 3 Bio-Refresh units were installed for employees – one in the basement parking, one in the security guards office and one in the staff entrance. However, Culligan also provided: Domestic Water Filtration & UV Disinfection, Chlorine Dioxide Disinfection System, Chilled Water Chemical Treatment, Condenser Water Chemical Treatment, Brackish Water RO system (430 m³/d).



7.680 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|-----------------------------------|
| CUSTOMER | ABB - Saipem / Sonatrach |
| LOCATION | Algeria |
| APPLICATION | Drinking Water |
| TREATMENT PROCESS | Reverse Osmosis, Demineralization |
| CAPACITY | 7.680 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 4x IW 100 |

336 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Oil and Gas Company |
| LOCATION | Libya |
| APPLICATION | Drinking Water |
| TREATMENT PROCESS | Filtration - Reverse Osmosis |
| CAPACITY | 136 m ³ /day + 27 m ³ /day |
| RAW WATER SOURCE | Sea Water |
| PROJECT CONTENT | 2x ROSW SKID |

1.200 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | Soft Drink Company |
| LOCATION | Italy |
| APPLICATION | Drinking Water - Process Water |
| TREATMENT PROCESS | Filtration, Bio Filtration, Reverse Osmosis |
| CAPACITY | 1.200 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 2x BF 80 2x UFP 54 2x IW 20 |

WASTE WATER



PROJECT DETAILS

| | |
|--------------------------|----------------------------|
| CUSTOMER | Large Distribution Company |
| LOCATION | Italy |
| APPLICATION | Waste Water |
| TREATMENT PROCESS | MBR |
| CAPACITY | 60 m ³ /day |
| RAW WATER SOURCE | Waste Water |
| PROJECT CONTENT | MBR 60 |

Wastewater brought within the limits of the law to be used in irrigation.

One of our historic large-scale retail trade Client in Tuscany, Italy had a problem with wastewater values above the legal limits. The Tuscany region is particularly sensitive to environmental problems deriving from industrial discharges so this socio-cultural context brought the Client decide to invest to solve the problem. The customer required a **solution to reuse wastewater for irrigation purposes**. However, wastewater values were well above the legal limits on suspended solids, BOD5, COD, ammonia nitrogen, animal and vegetable fats. Our project manager, Fabrizio Lazzarini, proposed installing a **total oxidation biological treatment plant** with final treatment by means of a **membrane bioreactor (MBR)**. Such solution **reduced pollutants** output by more than 90% and made water reusable for irrigation. The plant is able to **treat up to 60m³/day** of wastewater with a **contaminant removal efficiency of 99% for suspended solids, 95% for BOD5 and COD, ammonia nitrogen and fats**. The installation of the MBR has produced a benefit not only for the customer but also for the social context of the area: now the sewage system will receive a smaller amount of polluting and hydraulic load. This experience proved that technology aimed at reusing water is becoming more and more achievable and interesting, paving the way to similar projects in the future.



240 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Novotel Hotel |
| LOCATION | Dubai |
| APPLICATION | Grey Water Recovery |
| TREATMENT PROCESS | Filtration, Ultrafiltration, Reverse Osmosis |
| CAPACITY | 240 m ³ /day |
| RAW WATER SOURCE | Grey Water |
| PROJECT CONTENT | 1 x OFSY 48 1 x UR 48 1 x ULF 5 1 x IW 20 S |

170 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | Albatha Group |
| LOCATION | UAE |
| APPLICATION | Waste Water |
| TREATMENT PROCESS | MBR |
| CAPACITY | 170 m ³ /day |
| RAW WATER SOURCE | Waste Water |
| PROJECT CONTENT | Automatic coarse screen Coarse screen chamber DAF feed pumps and sludge pump Pipe flocculator Separator Anoxic tank Recirculation pump Aeration Tank 1 Aeration Tank 2 MBR MBR tank and product transfer pump Treated water storage tank MBR sludge transfer pump Filter feed pump sand filter and carbon filter Air blower for new aeration tank and MBR Air blower for anoxic and equalization tank Coagulant dosing tank and pump Caustic dosing tank and pump Polymer dosing tank Hypochlorite dosing tank and pump Odour control dosing tank and pump Nutrition dosing tank and pump Sludge collection transfer pump for biological and chemical Common control panel CIP pump and tank Air compressor |

PRODUCTION WATER



PROJECT DETAILS

| | |
|--------------------------|------------------------------|
| CUSTOMER | Milk Powder Products Company |
| LOCATION | Netherlands |
| APPLICATION | Production Water |
| TREATMENT PROCESS | Reverse Osmosis |
| CAPACITY | 840 m ³ /day |
| RAW WATER SOURCE | Municipal Water |
| PROJECT CONTENT | 2x IW 35 2x IW 7 |

Multinational Milk Powder Products Company in Borculo. The Netherlands RO systems for water recovery with a green solution.

Culligan’s franchisee in The Netherlands, RWB, was asked to join in the agreement initially via one of the employees network. The milk company has been investing in huge production capacity expansion for special milk products, hence demand for **low salinity water for utilities, boilers and production facilities** increased as well. The customer asked for two main targets. First, to be **as green as possible**, reducing water footprint in any possible way. Secondly, there are drinking water supply constraints from the main net. RWB and Culligan started the first solution concept in Los Angeles during Culligan 80th year Anniversary Convention. Client decided to invest in a secondary RO unit, which is processing the concentrate from the main unit. Now, **water recovery yield up to 93% is achieved**. The installation of **two RO system for 35 m³/h each** solved the customer’s problem **giving a high water yield, low concentrate to sewer and better water footprint**.



1.200 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|----------------------------------|
| CUSTOMER | Refriango |
| LOCATION | Angola |
| APPLICATION | Production Water |
| TREATMENT PROCESS | Ultrafiltration, Reverse Osmosis |
| CAPACITY | 1.200 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 1x ULF 50 1x GAC 90 |

1.920 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Rekitt Benckiser |
| LOCATION | Mira (VE), Italy |
| APPLICATION | Production Water |
| TREATMENT PROCESS | Filtration, GAC, Reverse Osmosis |
| CAPACITY | 1920 m ³ /day |
| RAW WATER SOURCE | Surface Water (River) |
| PROJECT CONTENT | 3x HF9 UF 88 1x GAC 100 1x IW 80 |

2.040 + 1.656 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | Coca-Cola (Dubai) Arena |
| LOCATION | City Walk, Dubai |
| APPLICATION | Domestic water, Storm water treatment |
| TREATMENT PROCESS | Filtration, Softening, Chemicals dosing system |
| CAPACITY | Domestic: 2.040 m ³ /day Storm Water: 1.656 m ³ /day |
| RAW WATER SOURCE | Municipal Water |
| PROJECT CONTENT | 1x GAC 84 1x IW 50 1x IW 10 |

PROCESS WATER



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Sofidel |
| LOCATION | Spain |
| APPLICATION | Process Water |
| TREATMENT PROCESS | Filtration, Reverse Osmosis |
| CAPACITY | 2160 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 2x HF9 UF 120" 1x HF9 UR 120" 1x IW 50 EVO Special 1x IW 16 EVO Special Drain 1x CIP |

Sofidel is a leading producer of tissue paper and finished products for the consumer market.

Culligan Spain was already a trusted supplier of Sofidel, having a **maintenance contract** at their facility. So when Sofidel's expansion plans meant they **needed to double the water treatment plant capacity**, Culligan was the obvious choice. They needed a **treatment plant for surface water with problems related to turbidity and salinity**. Culligan solutions includes a double stage pretreatment composed of by 2 x HF9 UF 120 in series and one HF9 UR 120 followed by a IW 50 EVO Special RO unit. In addition, a second RO unit (IW16 EVO Special) has been used to treat reject of main RO recovering 50% of it for industrial uses. Sofidel was delighted with the Culligan solution, not only receiving **high quality water** for their process, but also **saving costs and waste** by recovering the RO reject.



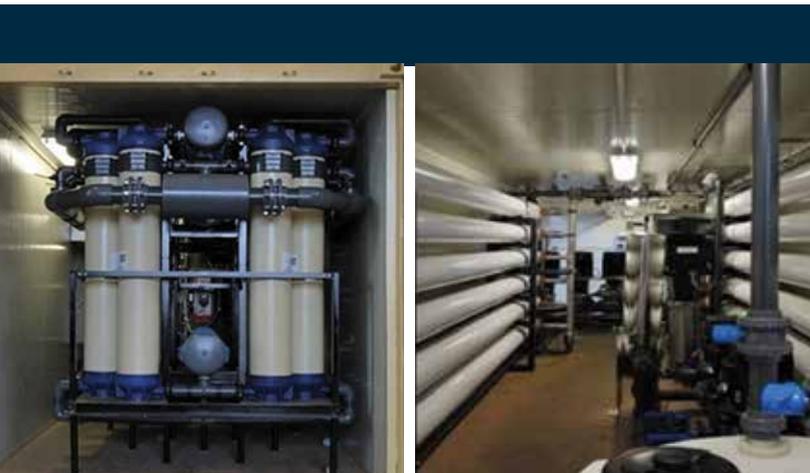
240 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Isir |
| LOCATION | Caspian Sea, Kazakhstan |
| APPLICATION | Process Water |
| TREATMENT PROCESS | Chemical Conditioning, Reverse Osmosis |
| CAPACITY | 480 m ³ /day |
| RAW WATER SOURCE | Surface Water |
| PROJECT CONTENT | 2 x IW 10 |

4.320 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|----------------------------------|
| CUSTOMER | Steel Production |
| LOCATION | France |
| APPLICATION | Process Water |
| TREATMENT PROCESS | Ultrafiltration, Reverse Osmosis |
| CAPACITY | 4.320 m ³ /day |
| RAW WATER SOURCE | Surface Water (Lake) |
| PROJECT CONTENT | 2x ULF 180 6x IWE 30 |

528 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | Uhdenora |
| LOCATION | Kazakhstan |
| APPLICATION | Process Water |
| TREATMENT PROCESS | Filtration, Demineralization |
| CAPACITY | 528 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 1x NRC 80 1x AMB 50 1x HI-FLO 9 UF 90 |

ULTRA PURE WATER



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | HERA |
| LOCATION | Coriano, Italy |
| APPLICATION | Ultra-pure Water |
| TREATMENT PROCESS | Electrodeionization |
| CAPACITY | 96 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 2x ULF 60 2x GAC 36 2x IW ² 6 2x EDI 40 |

By providing the water treatment package for its boiler plant at Coriano, Italy, Culligan helped HERA ensure the generation of electricity for their waste to energy programme. The Hera Group is **one of the largest multi-utility companies** in Italy and is responsible for the distribution of Water, Gas & Electricity for most of the Italian territory of Emilia-Romagna. Hera operate a series of waste to energy plants that currently service more than 2.7 million residents in the Emilia-Romagna region. Waste to energy plants work by generating electricity by utilising the heat that comes from the waste incineration process to produce steam in high pressure boilers. The high-pressure steam is used to drive large turbines which generate electricity. The specifications for water supply to these high-pressure boilers are very exacting and provide many challenges, in particularly if the raw water source is either well or surface water. Hera's Engineering team challenged Culligan to **reduce the mains water consumption costs of their Waste to Energy plant in Coriano, Italy by providing a system capable of producing 3,000 L/hr of water - from the local well water site - of a quality suitable for their high-pressure boilers.**

By using its expertise in the treatment of well water supplies Culligan was able to provide Hera with an **innovative water treatment package which met their exact needs.**



480 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|---|
| CUSTOMER | X-Group |
| LOCATION | Italy |
| APPLICATION | Ultra-Pure Water |
| TREATMENT PROCESS | Filtration, Reverse Osmosis, Electrodeionization |
| CAPACITY | 480 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 3x HF9 UF 48 3x UR 48 2x IW ² 10 2x EDI 100 |

280 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Delta T Impianti (per Officine Maserati) |
| LOCATION | Italy |
| APPLICATION | Ultra Pure Water |
| TREATMENT PROCESS | Reverse Osmosis, Demineralization |
| CAPACITY | 280 m ³ /day |
| RAW WATER SOURCE | Public Water |
| PROJECT CONTENT | 2x IW 6 2x AMB 100 |

2.160 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Danieli |
| LOCATION | Egypt |
| APPLICATION | Ultra-Pure Water |
| TREATMENT PROCESS | Ultrafiltration, Reverse Osmosis, Demineralization |
| CAPACITY | 2.160 m ³ /day |
| RAW WATER SOURCE | Well Water |
| PROJECT CONTENT | 2x ULF 100 2x IW 100 2x NRC 600 |

PHARMA WATER



PROJECT DETAILS

| | |
|--------------------------|--------------------------------------|
| CUSTOMER | Menarini S.p.A. |
| LOCATION | Italy |
| APPLICATION | Production Water |
| TREATMENT PROCESS | Reverse Osmosis, Electrodeionization |
| CAPACITY | 144 m3/day |
| RAW WATER SOURCE | Filling Machines Discharge |
| PROJECT CONTENT | 1x MFP 1600 1x EDI 10 |

The customer was looking for a valid solution because it had to replace an old mixed bed resin demineralization system as it was obsolete. Following a market research, he came into contact with the Culligan branch in Florence. The customer was looking for a partner capable of proposing the right water treatment technology, but also capable of designing, implementing, installing and maintaining a **customized system** that met the qualitative and documentary requirements of a pharmaceutical industry. Culligan has created a **reverse osmosis and electrodeionization system, completely preassembled on a skid, complete with a PLC electrical panel, analysis and control instrumentation for a complete remotization of the system status.**

Culligan has therefore **carried out all the phases of the order**, from the design, installation, up to the rigorous FAT and SAT control protocols for the validation of the plant. Thanks to the new Culligan plant, the customer has obtained a **better quality of water**, a **new-generation plant** that is **completely remote-controlled**, more **environmentally friendly** and **safer** as no dangerous chemical reagents are used such as caustic soda and hydrochloric acid.



3,5 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|-------------------------|
| CUSTOMER | Valpharma |
| LOCATION | S. Marino |
| APPLICATION | Purified Water |
| TREATMENT PROCESS | Reverse Osmosis, EDI |
| CAPACITY | 3,5 m ³ /day |
| RAW WATER SOURCE | Public Water |
| PROJECT CONTENT | 1x IW 1 1x EDI 1 |

36 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|--|
| CUSTOMER | Oftalmi |
| LOCATION | Venezuela |
| APPLICATION | Purified Water |
| TREATMENT PROCESS | Reverse Osmosis, EDI |
| CAPACITY | 36 m ³ /day |
| RAW WATER SOURCE | Municipal Water |
| PROJECT CONTENT | 1x Skid Pretreatment and Softener 2,5 m ³ /h + Skid RO +EDI 1,5 m ³ /h |

50 M³/DAY



PROJECT DETAILS

| | |
|--------------------------|------------------------|
| CUSTOMER | Sieg |
| LOCATION | Sudan |
| APPLICATION | WFI |
| TREATMENT PROCESS | Reverse Osmosis, EDI |
| CAPACITY | 50 m ³ /day |
| RAW WATER SOURCE | Public Water |
| PROJECT CONTENT | 1x IW 3 1x EDI 3 |

OTHER PROJECTS

| PROJECT | COUNTRY | SECTOR | APPLICATION | VALUE RANGE (K€) |
|---|---------------------------|--------------------------------|--------------------------|------------------|
| ALYOUM BAKERY (SAMA JORDAN) | JORDAN | Food Beverage Manufacturing | Process Water | 50 - 250 |
| AMITEC OY | FINLAND | Manufacturing | Boiler Water | 500 - 1000 |
| MAERSK | NORTH SEA (Oil Platform) | Industrial | Drinking Water | 60 m3/day |
| BLACKFOREST | UAE | Industrial | Process Water | 500 - 1000 |
| CONSUMER PRODUCTS | ITALY | Industrial | Waste Water | 250 - 500 |
| CROWN | TUNISIA | Manufacturing | Production Water | 50 - 250 |
| DAIRYGOLD | IRELAND | Food & Beverage | Production Water | 50 - 250 |
| DIFRAMA | FRANCE | Consumer products | Process Water | 50 - 250 |
| DUBAI HEALTH AUTHORITY (DHA) CLINICS – Umm Suqeim | UAE | Healthcare – Public Government | Boiler and Chilled Water | 250 - 500 |
| EQUINIX FRNKFURT | GERMANY | Commercial | Boiler and Chilled Water | 50 - 250 |
| GLOBAL WATER | EGYPT | Food & Beverage | Production Water | 50 - 250 |
| GLOD MINE | ARMENIA | Mining | Drinking Water | 50 - 250 |
| ISIR | KAZAKISTAN (Oil Platform) | Industrial | Drinking Water | 50 - 250 |
| AQUALUX | UKRAINE | Food & Beverage | Drinking Water | 50 - 250 |
| MANN PROJECT | NIGERIA | Petrochemical and Refining | Drinking Water | 500 - 1000 |

| PROJECT | COUNTRY | SECTOR | APPLICATION | VALUE RANGE (K€) |
|--------------------------------|----------------|-------------------------------|--|-------------------------|
| HODDESDON POWER | UK | Power Plant | Ultra-Pure Water | 50 - 250 |
| IBERTISSUE SOFIDEL | SPAIN | Pulp and Paper | Production Water | 50 - 250 |
| MEDICLINIC HOSPITAL (Barsha) | UAE | Healthcare - Private Hospital | Boiler and Chilled Water | 50 - 250 |
| MERCK SANTE | FRANCE | Pharmaceutical | Ultra-Pure Water | 50 - 250 |
| NATIONAL DAIRY PLANT (HAYATNA) | UAE | Industrial | Process and Recycling Water | 1000 + |
| NOVROROSS-PINO | RUSSIA | Food & Beverage | Production Water | 50 - 250 |
| SC JOHNSON JOHNSON | RUSSIA | Chemical | Boiler and Chilled and Production Water | 50 - 250 |
| SKD SPA | ALGERIA | Power Plant | Boiler and Chilled Water | 500 - 1000 |
| TEXALG - TEXTIL INDUSTRY | ALGERIA | Textile | Process Water | 50 - 100 |
| THYSSEN | FRANCE | Manufacturing | Ultra-Pure Water | 50 - 250 |
| ENKROTT / PORTUCEL CO. | PORTUGAL | Industrial | Process Water | 250 - 500 |
| Cabot S.pA | ITALY | Industrial | Ultra pure water (Filtration - Reverse Osmosis - Electro deionization) | 50 - 250 |
| FILTER TECHNOLOGIES PSC | RUSSIA | POWER PLANT | Drinking Water | 250 - 500 |
| HABIBO | MADAGASCAR | FOOD & BEVERAGE | Production Water | 50 - 250 |
| KAIKO OY | ALGERIA | Manufacturing | Boiler Water | 50 - 250 |



SERVICE

Culligan will install, commission and maintain your water systems in the most efficient way possible, providing you innovative technology, water testing, consumables and virtually everything else that you need in order to manage your water system safely and effectively. Customer service is a key differentiator for Culligan. Providing customized technological and tailored service solutions is what Culligan do best.

Culligan service above and beyond.

INSTALLATION, MAINTENANCE AND COMMISSIONING

Culligan's service specialists undergo in-depth training to ensure they are the water experts who can efficiently troubleshoot and fix any issue that arises on site.

With experience working in all industries and all areas of the world, Culligan service specialists will install, commission and then maintain your water treatment plant in the most efficient way possible.

ORIGINAL CULLIGAN SPARE PARTS & CONSUMABLES

Designed and built to the highest possible quality standards, and incorporating the latest improvements in technology Culligan genuine spare parts will keep your plant running at peak performance without interruption.

All Culligan consumables – resin, membranes, media, filters – are designed to enhance the performance of Culligan water treatment equipment, allowing longer operation, and lower operational costs.

With a dedicated 10,000m² facility in Technopark Dubai, including warehouse and chemical production, spare parts and consumables are kept in stock, ready for immediate delivery to site.

REPAIR FACILITIES BY SKILLED TECHNICIANS

Wherever possible repair of Culligan installations will be carried out on site by our highly qualified technicians, but in the case of more complex repairs these will be checked and repaired at one of our local service centres.

Our aim is to offer our customers a repair that is as economical and fast as possible, to ensure the best performance and efficiency of the plant when it will be put into operation again.

The Culligan service team of over 50 Culligan qualified water treatment technicians is one of the largest Service Teams in the Gulf region.

CHEMICAL SOLUTIONS

Culligan offers a complete range of water treatment chemical solutions, designed specifically to enhance the operation of Culligan equipment, protect your equipment and ensure the safety of your employees and customers.

Our range of chemical treatment solutions are manufactured locally in our Technopark facility. As well as offering our range of standard chemical solutions, the chemical team in our Technopark facility can create bespoke treatment solutions specific to your needs.

All of our chemicals are manufactured to the highest quality standards and comply with all relevant local and international regulations.

WATER ANALYSIS & HYGIENE SERVICES

Culligan can carry out routine monitoring and analysis using accredited laboratories as well as other Hygiene services such as Legionella Site surveys and Risk Assessments to help you ensure your water systems are safe and your management system is fully compliant with local regulations

PRE-COMMISSION CLEANING SERVICES

Culligan are experts in the region for the pre-commission cleaning, flushing, disinfection and chemical treatment of building utility water systems.

With a dedicated Pre-commission Cleaning Services team of engineers, technicians and all the necessary pumps, and pipework necessary to address any systems need Culligan are uniquely placed in the Gulf region to quickly and efficiently carry out your pre-commission flushing.

Culligan[®]

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