



Culligan®



REFERENCE BOOK

MUNICIPALITY





*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.

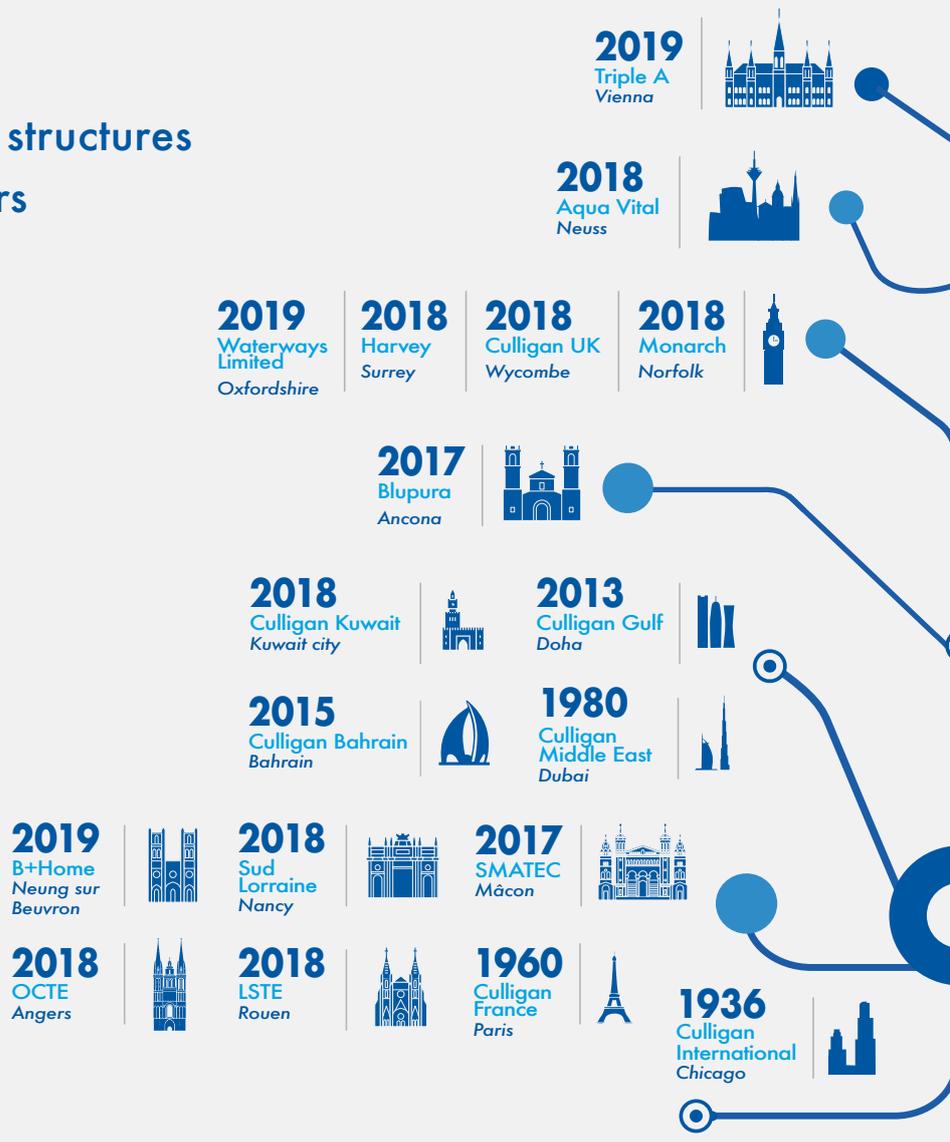
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In Culligan, we love water since 1936.

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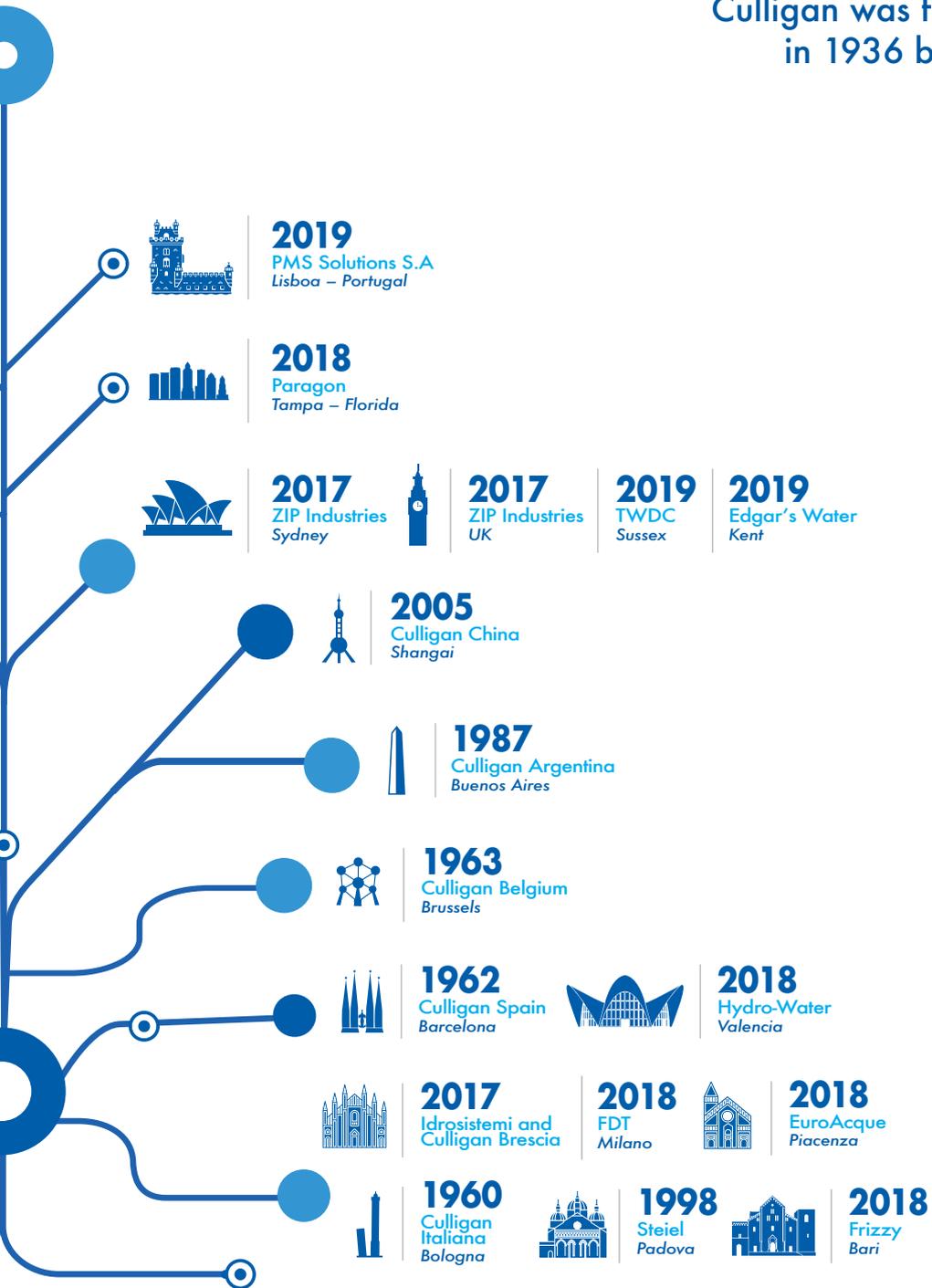
# Culligan international

**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.

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## Some of Our References



Industrial



Municipal



Containerized  
Solutions



Healthcare



Hospitality



Marine





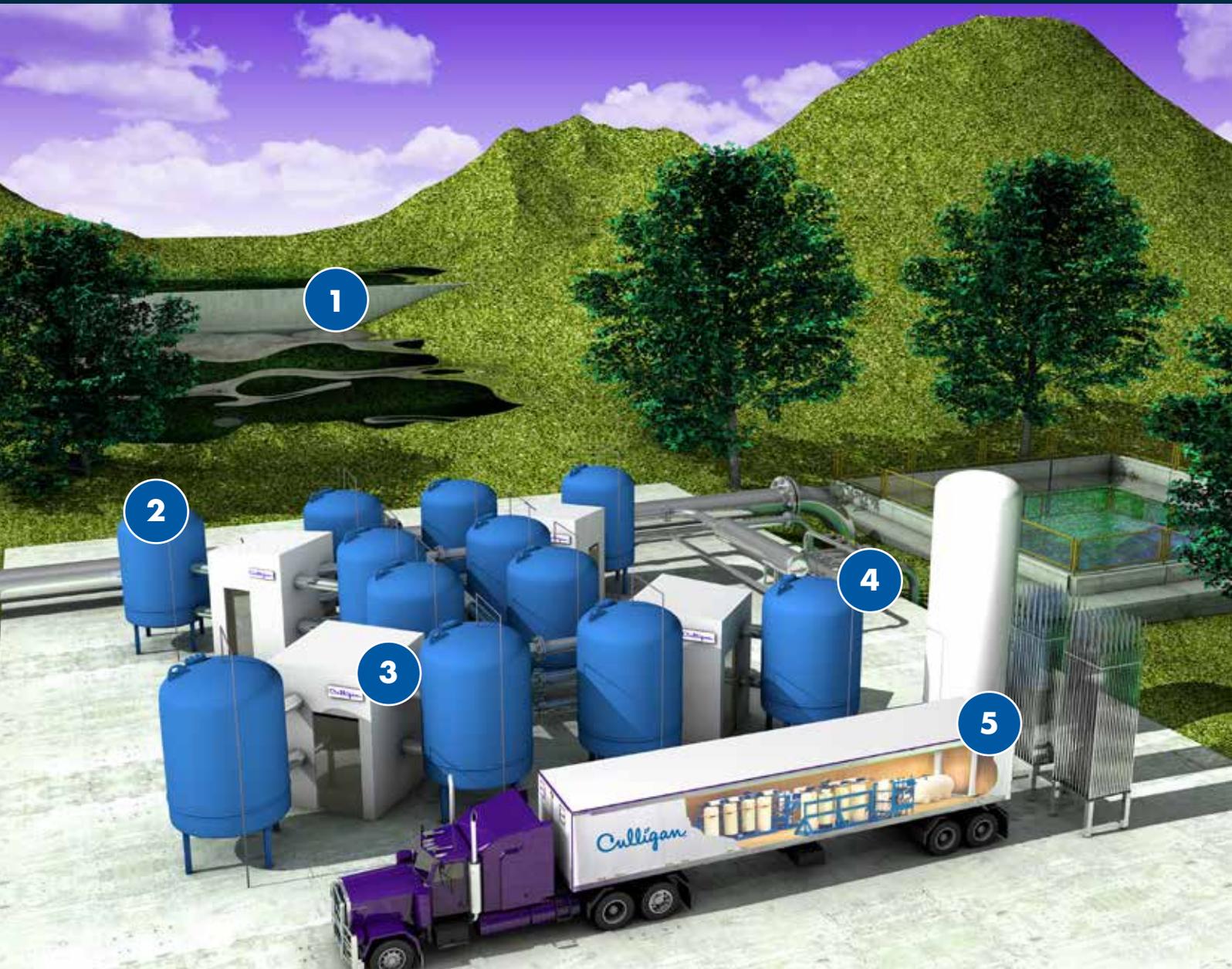
## WATER FOR VILLAGES, TOWNS, CITIES

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. Culligan also designs and constructs water treatment and effluent plants inside shipping containers which are ideal for remote small communities. Fully factory tested and shipped directly to site for easy and fast installation.

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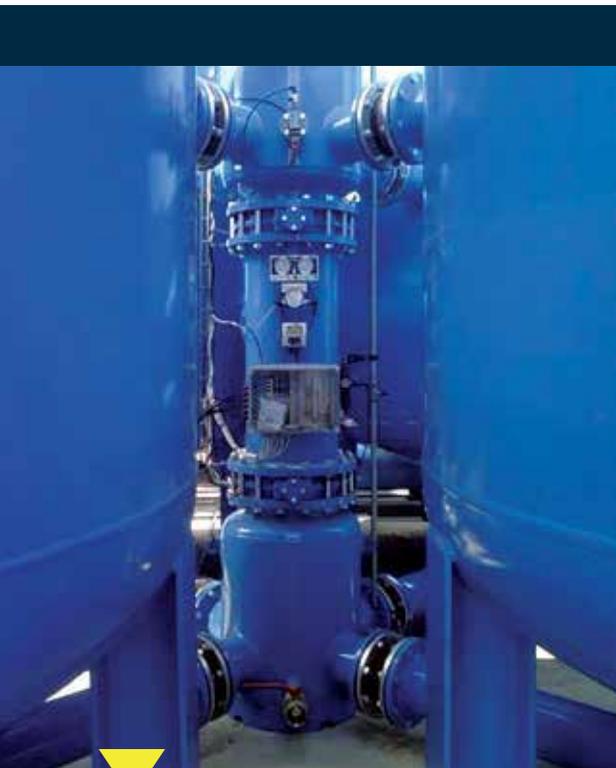
Improved drinking water for all, with Culligan Water.

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- 1** WATER SOURCES
- 2** FILTRATION TECHNOLOGY
- 3** MODULAR DESIGN
- 4** FULL RANGE OF MEDIA
- 5** CONTAINERISED WATER SYSTEMS

# WELL WATER



## PROJECT DETAILS

<b>CUSTOMER</b>	ARIN S.p.A. - Casoria Municipality
<b>LOCATION</b>	Casoria, Italy
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration
<b>CAPACITY</b>	76.800 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Well Water
<b>PROJECT CONTENT</b>	16x UFP 480 12x GAC 480

Casoria is an Italian town of 77,357 inhabitants in the province of Naples, in the Campania region. It is part of the coastal hills of Naples, and located in the middle of ancient reclaimed swamps. The aqueduct that brings water to the city was inaugurated in 1885 and has been managed for more than 20 years by ARIN, the client who commissioned the Culligan water treatment plant. The application of a **specific treatment system** was required by the company **to reduce pollutants in water**. In 2010, after three years of work, the treatment plant developed by Culligan was inaugurated. The plant's purpose was to **bring manganese values below 10 ppb and of Trichloroethylene and Tetrachloroethylene below 5 ppb**. In the last twenty years, groundwater used as drinking water showed growing levels of pollutants, due to increase in consumption (lowering of groundwater levels) and the presence of anthropogenic pollution, resulting from human activity. Until 2009, drinking water supplied locally presented values of manganese, Triclorethylene and Tetrachlorethylene above the legal limit (50 ppb of manganese and 10 ppb Tri + Tetrachloroethylene), levels that prevented water distribution to local utilities. The turnkey solution developed by Culligan, namely, from preliminary design to testing, consists of a **pressurized filtration system that relies on two-stage filtration**: the first uses catalytic material for the removal of manganese, with previous disinfection with sodium hypochlorite, and subsequent filtration through granular activated carbon for the adsorption and removal of Tri and Tetrachlorethylene.



# 270.000 M<sup>3</sup>/DAY

\*THE LARGEST ARSENIC REMOVAL PLANT IN THE WORLD.



## PROJECT DETAILS

<b>CUSTOMER</b>	IZSU - Water and Sanitation Administration
<b>LOCATION</b>	Izmir, Turkey
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration, Arsenic Removal Treatment
<b>CAPACITY</b>	270.000 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Well Water
<b>PROJECT CONTENT</b>	RO Water Tank 5000 m <sup>3</sup> 32x HI-FLO 9 UFP 480 Treatment Water Tank 3000 m <sup>3</sup> Sedimentation System 2x HI-FLO 9 UF 360

# 82.000 M<sup>3</sup>/DAY



## PROJECT DETAILS

<b>CUSTOMER</b>	Acqualatina
<b>LOCATION</b>	Aprilia, Italy
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration, Arsenic Removal Treatment
<b>CAPACITY</b>	Carano Giannettola: 51.800 m <sup>3</sup> /day Sorgenti del carano: 22.400 m <sup>3</sup> /day Dante Alighieri Station: 7.800 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Well Water
<b>PROJECT CONTENT</b>	6x UFX 560

# 40.000 M<sup>3</sup>/DAY



## PROJECT DETAILS

<b>CUSTOMER</b>	WTP Zabrowo
<b>LOCATION</b>	Poland
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Biological Filtration For Municipality
<b>CAPACITY</b>	40.000 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Well Water
<b>PROJECT CONTENT</b>	5x BF480

# SURFACE WATER



01

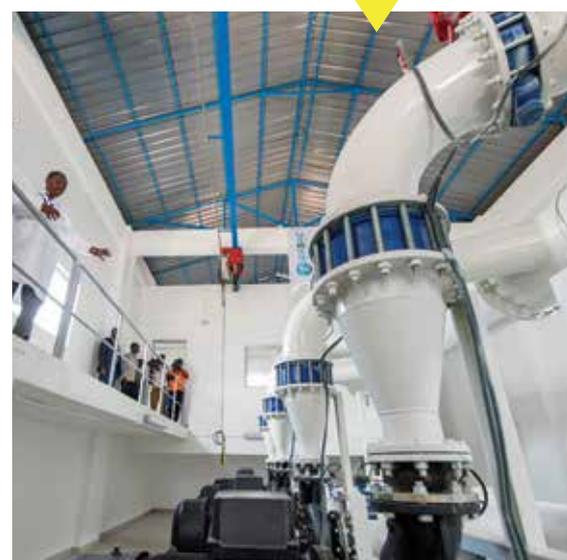


02

Kigali is the capital City of Rwanda with a population over 1 million. Nyabarongo River is one of the main water sources of the city for drinking water. Water shortage is one of the main issues for the city. Nyabarongo River water has a main **problem of high content of iron and manganese besides high turbidity and suspended solids**. Culligan built a pilot plant to test best technology for treating iron and manganese and turbidity in 2014. After the successful test results process designed accordingly and modified according to treat high iron and manganese content. Due to high water demand, **first phase of the project completed within 6 months** and inaugurated in 2016. Second phase inauguration projected for July 2017.

PROJECT DETAILS	
<b>CUSTOMER</b>	WASAC Water and Sanitation Corporation of Rwanda
<b>LOCATION</b>	Rwanda
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Sedimentation, Disinfection, Culligan OFSY Filtration
<b>CAPACITY</b>	First Phase: 40.000 m <sup>3</sup> /day Second Phase: 65.000 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Nyabarongo River
<b>PROJECT CONTENT</b>	Water Intake Intake pump station: 1.750 m <sup>3</sup> /h+4.565 m <sup>3</sup> /h Sedimentation OFSY 480 Treated Water reservoirs 1 x 1.000 m <sup>3</sup> 2 x 2.000 m <sup>3</sup> 1 x 5.000 m <sup>3</sup> Treated Water Pump Stations 1 x 4.565 m <sup>3</sup> /h 1 x 1.750 m <sup>3</sup> /h Hypochlorite Production Plant Main water supply pipeline 7.5 km (0400-0600) PLC&SCADA System
<b>CONTENT OF NZOVE-2 PROJECT</b>	<ul style="list-style-type: none"> <li>• Extending the capacity of Nzove-1 Plant from 25.000 m<sup>3</sup>/day to 40.000 m<sup>3</sup>/day</li> <li>• OFSY Treatment Plant 65.000 m<sup>3</sup>/day</li> <li>• Raw water intake from Nyabarongo river</li> <li>• Pre-treatment - sedimentation</li> <li>• 2.000 m<sup>3</sup> Nzove treated water reservoir</li> <li>• 2.000 m<sup>3</sup> Karama Hill treated water reservoir</li> <li>• 5.000 m<sup>3</sup> Mount Kigali treated water reservoir</li> <li>• 5 km NO 600 steel pipe line</li> <li>• 2.8 km NO 400 steel pipe line</li> <li>• 2 x High Pressure pump stations</li> <li>• Hypochlorite production plant</li> <li>• Administration building</li> <li>• PLC &amp; SCAOA System</li> </ul>

01. Pretreatment and OFSY Filtration Building. Nzove-1 Plant.  
02. OFSY Filtration Building. Nzove-1 Plant.



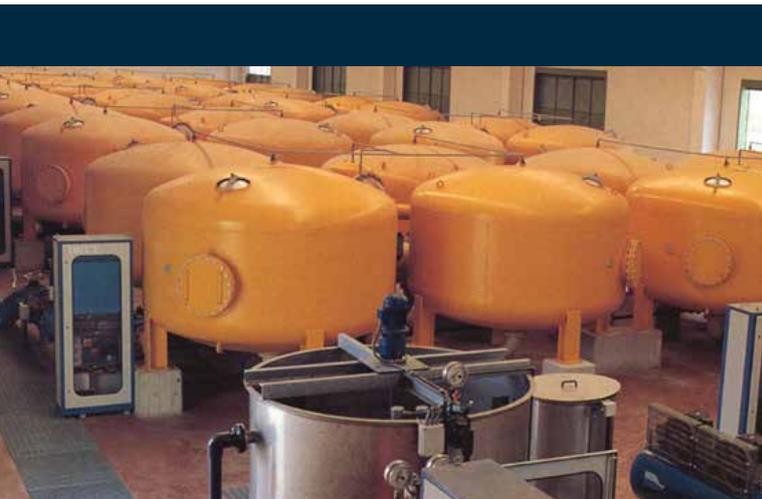
## 340.000 M<sup>3</sup>/DAY



### PROJECT DETAILS

<b>CUSTOMER</b>	Aguas do Douro e Paiva SA
<b>LOCATION</b>	Oporto City, Portugal
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration
<b>CAPACITY</b>	340.000 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	River - Douro
<b>PROJECT CONTENT</b>	River Water Intake HF9 UFP480 MCC Filter Feed Pump Station PLC&SCADA Sytem

## 128.000 M<sup>3</sup>/DAY



### PROJECT DETAILS

<b>CUSTOMER</b>	AGAC Water and Gas Consortium of Reggio Emilia
<b>LOCATION</b>	Reggio Emilia, Italy
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration
<b>CAPACITY</b>	128.000 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Secchia River
<b>PROJECT CONTENT</b>	Pre-treatment, sedimentation OFSY 560 GAC 100 PLCSystem

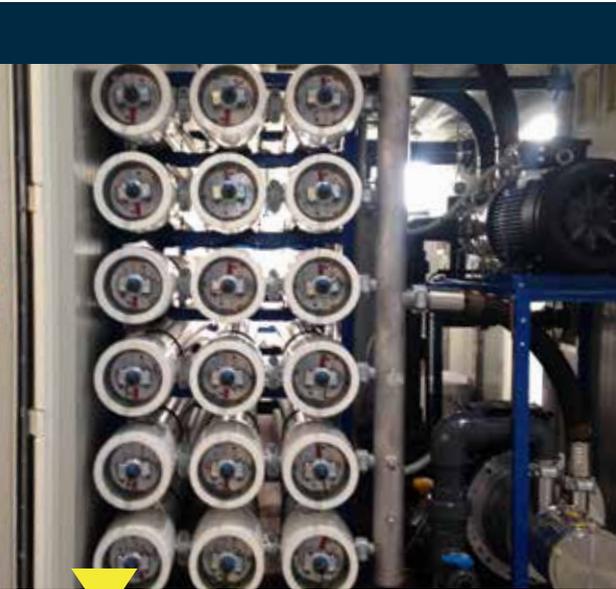
## 30.000 M<sup>3</sup>/DAY



### PROJECT DETAILS

<b>CUSTOMER</b>	Ushak Leather Industrial Zone
<b>LOCATION</b>	Turkmenistan
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration, Reverse Osmosis
<b>CAPACITY</b>	30.000 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Murghab River
<b>PROJECT CONTENT</b>	OFSV 480 IW RO Treated Water Reservoir: 3.000 m <sup>3</sup> On-site Hypochlorite Manufacturing Plant PLC&SCADA System

# SEA WATER



## PROJECT DETAILS

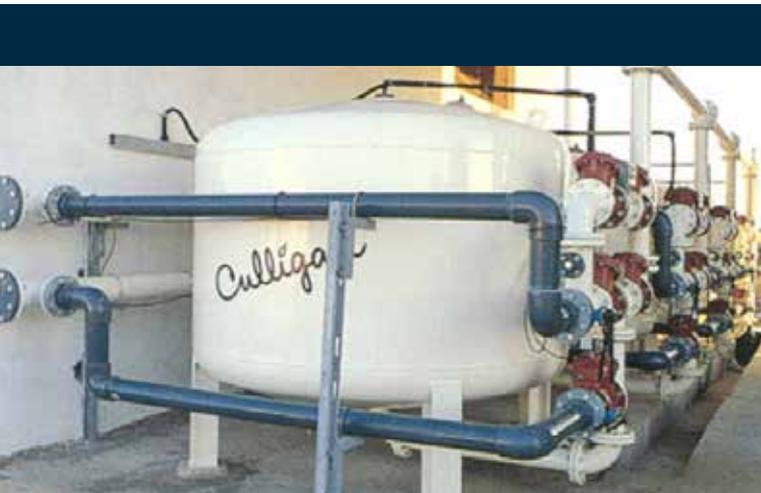
<b>CUSTOMER</b>	IDAAN
<b>LOCATION</b>	Isla Contadora, Panama
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration, Sea Water Reverse Osmosis
<b>CAPACITY</b>	960 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Sea Water
<b>PROJECT CONTENT</b>	2 x HI FLO 9 60'' PA-PE 1 x SW40 EVO

### Study, Design and Construction of the Supply System of Potable Water of Contadora Island - Panama

A couple of hours away from Panama by ferry, there's an island of a few square kilometres where the Spaniards once counted the pearls before sending them to Europe, and where the rich Panamanians now move to for the weekend, servants and food in tow. The luxurious and hidden houses in the rich vegetation are visible only from the sea: the road that would lead to the numerous small bays, on which they are built, always ends at the gate of their driveway. This fabulous island, surrounded by beautiful beaches, had a big problem: **lack of the public water distribution network**. The Institute of National Aqueducts and Sewers, IDAAN, made a tender to study, design and construct of the supply system of potable water. Prodim S.A, dealer of Culligan International, decided to participate offering a Sea Water System, launched by Culligan Italy in US market in April 2016, during the 80th Anniversary Convention. The particularity of the island and the difficulties of transport and installation, led to the decision to provide a **seawater desalination plant built in a container**. The solution, manufactured in Cadriano, led to a **considerable reduction in construction and assembly work on site**, meeting the needs of the customer. The plant, with a **production of 40 m<sup>3</sup>/h**, has given the possibility to the inhabitants of the island to **have drinking water**, before then always supplied by transport in tanks.



## 500 M<sup>3</sup>/DAY



### PROJECT DETAILS

<b>CUSTOMER</b>	Sardinia Municipality
<b>LOCATION</b>	Sardegna, Italy
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration, Reverse Osmosis
<b>CAPACITY</b>	500 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Sea Water
<b>PROJECT CONTENT</b>	Hi-Flo 6 UF Hi-Flo 6 UR RO Plant

## 2.000 M<sup>3</sup>/DAY



### PROJECT DETAILS

<b>CUSTOMER</b>	Tinos Municipality
<b>LOCATION</b>	Tinos, Greece
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration, Reverse Osmosis
<b>CAPACITY</b>	2000 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Sea Water
<b>PROJECT CONTENT</b>	4x SW 22K

## 6.500 M<sup>3</sup>/DAY



### PROJECT DETAILS

<b>CUSTOMER</b>	Mykonos Municipality
<b>LOCATION</b>	Mykonos, Greece
<b>APPLICATION</b>	Drinking Water
<b>TREATMENT PROCESS</b>	Filtration, Chemical Conditioning, Reverse Osmosis
<b>CAPACITY</b>	6.500 m <sup>3</sup> /day
<b>RAW WATER SOURCE</b>	Sea Water
<b>PROJECT CONTENT</b>	3 x SW 90K special

# OTHER PROJECTS

PROJECT	COUNTRY	APPLICATION	VALUE RANGE (K€)
ARCHIDONA FRESNO	SPAIN	Drinking Water	50 - 250
BENMANSOUR GENERAL SERVICES - STATION	ALGERIA	Drinking Water	50 - 250
CINQUE BOTTINI - ALLUMIERE	ITALY	Drinking Water	50 - 250
FORMIA SOCCORSO	ITALY	Drinking Water	50 - 250
KUNST	CZECH REPUBLIC	Biological Equipment	500 - 1000
LANDSTEJN WTP	CZECH REPUBLIC	Filtration	250 - 500
CINQUE BOTTINI - ALLUMIERE	ITALY	Drinking Water	50 - 250
LIFE SINAI	EGYPT	Drinking Water	50 - 250
DOBRANY WTP	CZECH REPUBLIC	Building Mains Water	50 - 250
PODEBRADY	CZECH REPUBLIC	Building Mains Water	50 - 250
SIA UZTICIBA UN PARNERATTIECIBAS	LATVIA	Drinking Water	50 - 250
DEFENCE HEAD QUARTERS (DHQ) LAGON NIGERIAN ARMY	NIGERIA	Drinking Water	50 - 250
LUHANSK PROJECT	UKRAINE	Drinking Water	250 - 500
PROSINE PROJECT	CROATIA	Drinking Water	50 - 250
SOCIETE NATIONALE DE GENIE CIVILE ET BATIMENT	ALGERIA	Drinking Water	50 - 250
ZWARA HOSPITAL	LIBYA	Drinking Water	250 - 500

PROJECT	COUNTRY	APPLICATION	VALUE RANGE (K€)
MAGRI AUTOADESIVI	ITALY	Production Water	50 - 250
SADE	FRANCE	Drinking Water	50 - 250
SADE	FRANCE	Drinking Water	50 - 250
THE GREAT MOSQUE	ALGERIA	Softener - Disinfection	250 - 500
WTP STEFANOV	POLAND	Drinking Water	500 - 1000
WATERWORKS COMPANY	ITALY	Potabilisation	500 - 1000
BIALOBRZEGI	POLAND	Drinking Water	50 - 250
DEFENCE HEADQUARTERS - MIN. FO DEFENCE	NIGERIA	Drinking Water	50 - 250
LEAD CONTRACTING & TRADING	ALGERIA	Effluent Treatment	50 - 250
DELEGAT ENTERPRISES LIMITED THE BUSINESS CENTRE - RIGA	LATVIA	Drinking Water	50 - 250
IBALEX NIGERIA LIMITED	LIBYA	Building Mains Water	50 - 250
PALACKEHO ULICE	CZECH REPUBLIC	Drinking Water	50 - 250
PROJ WATERWORKS DEBRECEN SZEKELYUDVARHELYI	HUNGARY	Drinking Water	250 - 500
GHADEER PROJECT	UAE	Drinking Water	50 - 250
KERRY COUTY COUNCIL	IRELAND	Drinking Water	50 - 250
MARY MUNICIPALITY PROJECT	TURKMENISTAN	Production Water	500 - 1000



## 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.

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Culligan service above and beyond.

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## 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 10,000m<sup>2</sup> 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*®

## **Culligan international**

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*Culligan*<sup>®</sup>