



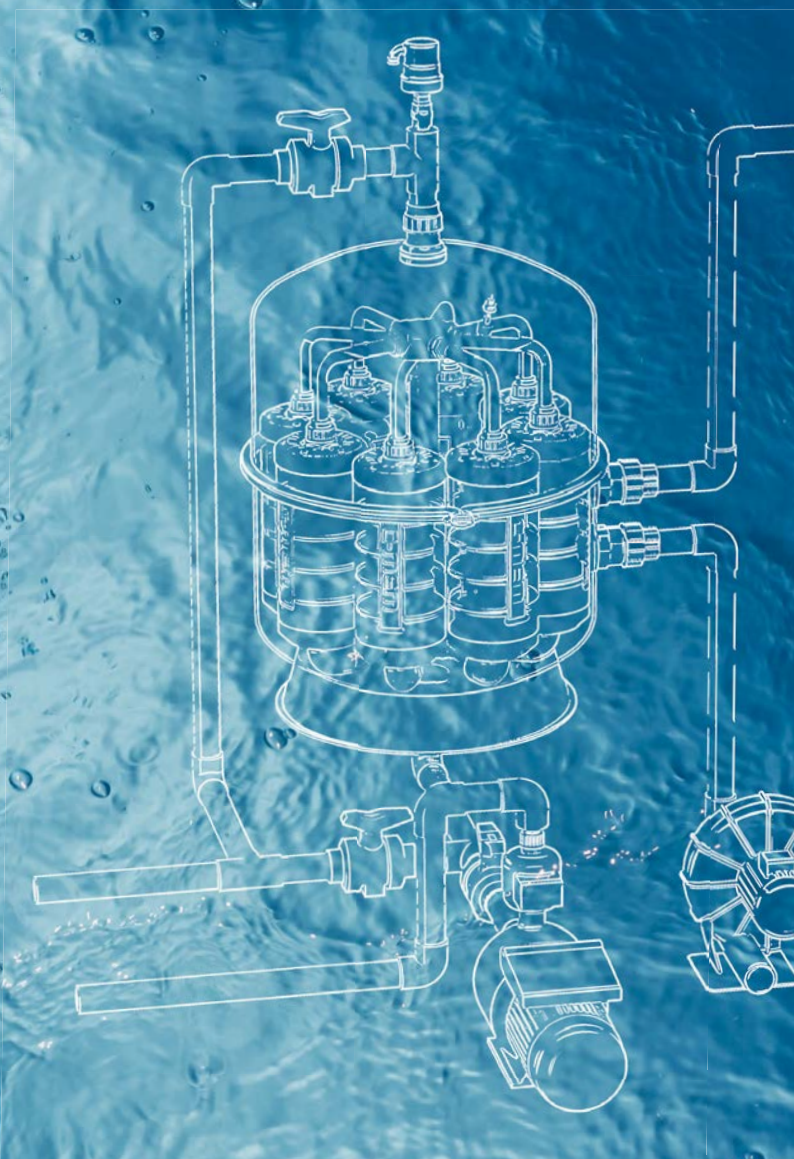
**SFC Umwelttechnik**

clean water for the world

**ENGINEERING & CONTRACTING**

ADVANCED  
TECHNOLOGIES  
FOR WATER,  
WASTEWATER AND  
RENEWABLE ENERGY

[www.sfcu.at](http://www.sfcu.at)







# CLEAN WATER FOR THE WORLD

## ENVIRONMENTAL ENGINEERING AND CONTRACTING AROUND THE GLOBE

### INNOVATIVE, PROGRESSIVE, INTERNATIONAL: THAT'S SFC UMWELTTECHNIK GMBH

**SFCU is a worldwide active company in the field of technologies for water and wastewater treatment with 20 years of experience in rendering design services and supply of equipment especially for water and wastewater treatment plants.**

For our special technologies we develop and manufacture system components and machinery controlled by sophisticated automation systems to guarantee a constant high-quality effluent and product quality. Our offices and subsidiaries together with our worldwide sales network make us a flexible, high-performance and responsive business partner always keeping close contact to our clients.



Our headquarters in Salzburg / Austria

### SERVICES OFFERED

**In the field of water and wastewater treatment (municipal and industrial) and renewable energy we mainly, but not exclusively, offer the following:**

- ❑ feasibility studies
- ❑ hydraulic engineering
- ❑ sanitary engineering
- ❑ process engineering
- ❑ quantity surveys and cost estimations
- ❑ tender documentation and evaluation
- ❑ detail engineering
- ❑ supervision of erection and installation
- ❑ project management
- ❑ commissioning
- ❑ process training
- ❑ process control system and SCADA training and supply
- ❑ process equipment supply
- ❑ remote process and operation monitoring
- ❑ hollow fibre membrane production and supply



## TECHNOLOGY FOR WASTEWATER TREATMENT

### C-TECH™ CYCLIC ACTIVATED SLUDGE TECHNOLOGY

The **C-TECH™** process is a cyclic activated sludge process with simultaneous carbon oxidation, nitrification, denitrification and bio-P removal being an advancement of the conventional sequencing batch reactor technology (SBR technology) with basin configuration in circular or rectangular shape.

The special process control applying oxygen uptake rate (OUR) online measurement allows the omission of equalization basins, mixing devices and flash filling as usually required in conventional SBR-systems.

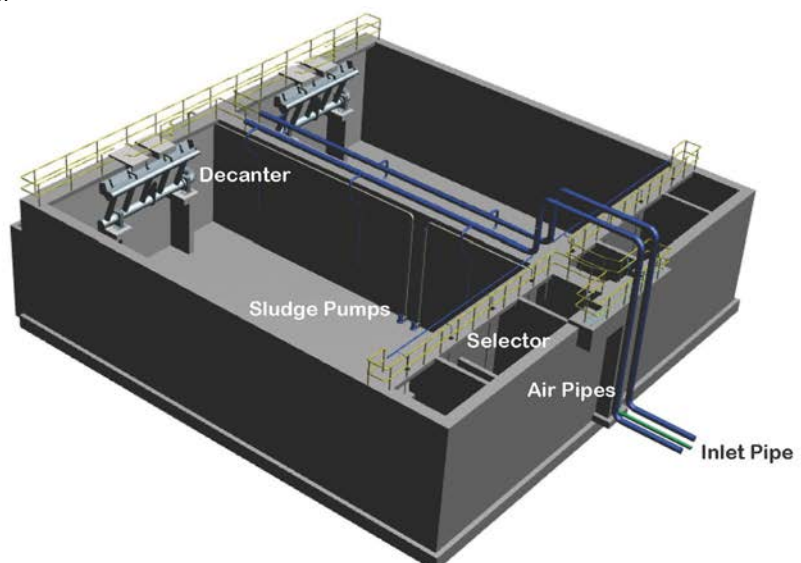
A continuous treatment is achieved by installing two or more basins operating in parallel.

### INDUSTRIAL APPLICATIONS:

- ❑ Food and starch production
- ❑ Textile and paper industry
- ❑ Chemical and petrochemical industry
- ❑ Breweries and distilleries
- ❑ Beverage (Coca Cola) production
- ❑ Pharmaceutical industry

### PROCESS ADVANTAGES

- ❑ less area and volume requirements and reduced operation costs (savings up to 20 % possible)
- ❑ no equalization tank necessary
- ❑ no flash filling necessary
- ❑ no mixing devices required
- ❑ selector to suppress the formation of filamentous microorganisms
- ❑ no separate anoxic phase necessary
- ❑ high removal efficiency





# INTELLIGENT DESIGN ...

## TECHNOLOGY FOR WATER AND WASTEWATER TREATMENT

### C-MEM™

The **C-MEM™** technology applies organic hollow fibre membranes for ultrafiltration in water and wastewater treatment systems.

The characteristic of the **C-MEM™** process is the use of submerged organic hollow fibre membranes which are wrapped around a carrier inside a cartridge and arranged in bundles. The cartridge provides the required strength and protection for the hollow fibres and allows the application of high-pressure air-scouring for cleaning purposes of high local turbulence and hence of high cleaning efficiencies.

The cartridges are combined in modules with air-scour and filtrate connections.

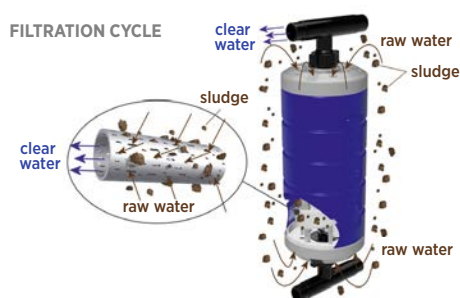
The pore size of the membranes allows for the removal of bacteria and viruses. Its compact design makes the modules suitable for grey water and container plants as well as for practically all purposes in water and wastewater treatment.

### MAIN ADVANTAGES

- ❑ premium cleaning possibility results in higher flux
- ❑ effective air-scour cleaning reduces operation costs
- ❑ cartridge design allows cleaning chemicals to react without dilution – reduced operation costs
- ❑ simple and individual replacement of cartridges
- ❑ robust fibres with high resistance to oxidative chemicals
- ❑ easy access and maintenance with easy replacement of membranes
- ❑ extremely compact applications (space saving)
- ❑ anti-fouling properties

### APPLICATIONS

- ❑ wastewater treatment in Membrane Bio Reactor (MBR)
- ❑ grey water treatment (water from showers, washbasins, rain water)
- ❑ ground and surface water treatment
- ❑ water reuse
- ❑ mobile water treatment plants
- ❑ water treatment in isolated villages without electrical energy, disaster areas etc. (C-MEM ZERO)







**NO ELECTRICITY**



**NO MECHANICAL PARTS**



**NO WATER PUMP NEEDED**



**WORKS WITH  
GRAVITATIONAL FORCE**



**EASY FILTER CLEANING**

## **C-MEM ZERO FOR DRINKING WATER TREATMENT**








**C-MEM ZERO** works without electrical energy and is driven by gravity only (up to 8 m of water column). The skid consists of a filtration vessel with included ultrafiltration membranes. For water production the skid just needs to be connected to a slightly higher located raw water tank. The raw water will enter the skid by gravity and will be cleaned by the ultrafiltration membrane cartridge inside the filtration vessel. Water production is up to 8,000 L/day per cartridge.







Filtration test at Toluca Lagoon / Mexico;  
raw water vs. clear water after filtration

## REFERENCES





**MORE THAN  
400 PLANTS WITH  
OUR TECHNOLOGIES  
FOR WATER AND  
WASTEWATER  
TREATMENT AROUND  
THE WORLD**

-  country/continent
-  plant/process
-  type of water
-  capacity
-  C-TECH™
-  C-MEM™
-  conventional/mobile







-  Poland/Europe
-  Żywiec
-  domestic and industrial (brewery)
-  48,000 m<sup>3</sup>/d







-  Slovenia/Europe
-  Lek Lendava
-  industrial, pharmaceutical
-  4,427 m<sup>3</sup>/d







-  Mexico/Middle America
-  Amecameca
-  domestic
-  26,950 m<sup>3</sup>/d







-  Chile/South America
-  SCA Chile S.A.
-  industrial, paper
-  6,000 m<sup>3</sup>/d







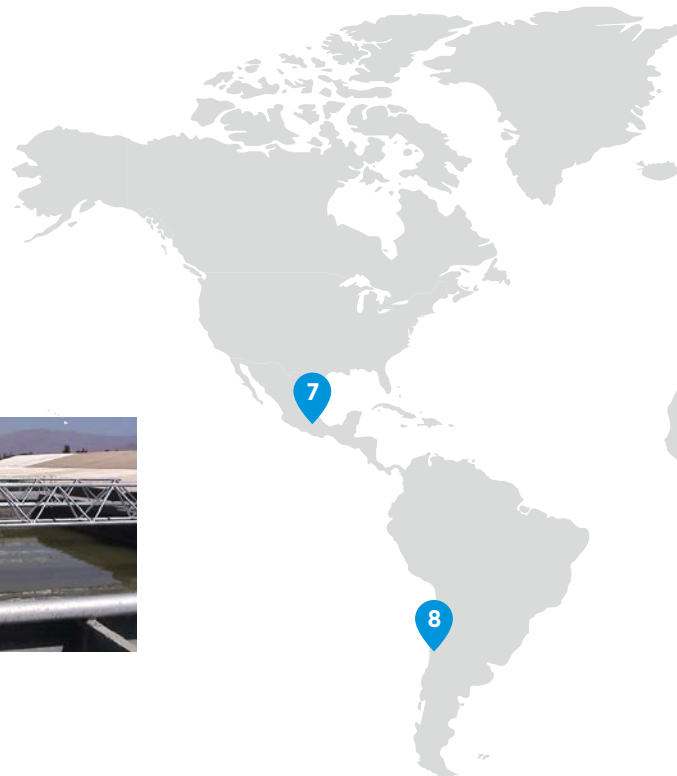
-  UAE/Asia
-  Al-Ain
-  wastewater recycling
-  312 m<sup>3</sup>/d



-  India/Asia
-  Manav
-  industrial, brewery
-  1,200 m<sup>3</sup>/d



-  Sri Lanka/Asia
-  Hambantota
-  drinking water (source: river)
-  7,500 m<sup>3</sup>/d







3  
 Croatia/Europe  
 Coca Cola Solin  
 industrial, beverage  
 1,000 m<sup>3</sup>/d



4  
 Bosnia/Europe  
 Sarajevo  
 landfill leachate  
 432 m<sup>3</sup>/d



5  
 South Korea/Asia  
 Yesan  
 domestic  
 5,928 m<sup>3</sup>/d



6  
 China/Asia  
 Weinan  
 domestic and industrial  
 100,000 m<sup>3</sup>/d



9  
 Angola/Africa  
 mobile treatment unit  
 drinking water (source: surface water)  
 100 m<sup>3</sup>/d



13  
 Malaysia/Asia  
 Jelutong  
 domestic  
 388,800 m<sup>3</sup>/d



14  
 Queensland/Australia  
 Moura River  
 service water (source: river)  
 1,200 m<sup>3</sup>/d



15  
 Vietnam/Asia  
 Vinh City  
 domestic  
 49,900 m<sup>3</sup>/d



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clean water for the world

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