PWN Technologies

CeraMac® is an innovative ceramic membrane block design by PWN Technologies, offering a considerable reduction in investment costs. The CeraMac® design makes it economically feasible to use ceramic membranes on surface water for large-scale applications.

For more information, please visit: **www.pwntechnologies.com**

For solutions enquiries, send an e-mail to **info@pwntechnologies.com** or call PWN Technologies The Netherlands **+31 (0)23 541 3740**

CERAMAC®

Innovative ceramic membrane block design

The use of a ceramic membrane compared to a polymer membrane has many advantages. Besides a longer lifetime almost any chemical can be used in combination with the membrane, making it possible to clean it with almost any thinkable cleaning regime. The strength of the membrane also makes it possible to use extreme backwash pressure without damaging the membrane and risking an integrity breach.

Although ceramic membranes are perceived to be more expensive than polymer membranes, their longer life expectancy results in lower membrane operational costs. Despite these advantages, the application of ceramic membranes has been limited worldwide, mainly due to the investment costs. The CeraMac® design by PWN Technologies however offers a considerable reduction in the investment costs, which can mean a breakthrough in the market share of ceramic membrane application.

Design of a 32 MGD full scale CeraMac® plant.

Besides very efficient process conditions, the total footprint is extremely low, creating the ultimate treatment step to remove all suspended matter. The application of CeraMac® means a significant improvement in the filtration process. CeraMac® is therefore extremely suitable in places where producing high quality drinking water is difficult or even impossible to achieve using conventional treatment processes.

CeraMac's innovative design uses the world's best ceramic membranes from Metawater, in a highly compact set up. This unique block design combines 192 elements in a single vessel. Not only has CeraMac® a very small footprint, but also the amount of stainless steel and number of valves is less than other membrane installations. The strength of the CeraMac® block design enables a powerful backwash of up to 5 bar to clean the membranes, with a downtime per backwash of only a few seconds, resulting in higher productivity and lower energy consumption, without the risk of water hammer.

CeraMac® block with 192 elements in a single vessel.

The advantages of CeraMac®:

- Small footprint
- Low energy consumption
- High reliability
- Limited number of valves and use of stainless steel per block
- Low maintenance
- High efficiency
- Powerful backwash, at a pressure of 5 bar
- Downtime for backwash only a few seconds: high productivity

PWN Technologies: innovation engine

PWN Technologies, a subsidiary of water supply company PWN in the Netherlands, was established to make the utility's innovations in water treatment available to other water companies around the globe. The revenues of PWN Technologies are invested in R&D programmes to strengthen PWN's position as an innovative water supply company. PWN Technologies has developed advanced and sustainable solutions in water treatment, based on suspended ion exchange, ceramic membrane applications and advanced oxidation. PWN Technologies is located in the Netherlands (Velserbroek and Andijk) and Singapore.

EUROPEAN HEADQUARTERS
PO Box 2046, 1990 AA Velserbroek, The Netherlands
Telephone +31 23 541 3740

ASIA-PACIFIC HEADQUARTERS
1 Kim Seng Promenade,
#08-10, Great World City West Tower, Singapore 237994
Telephone +65 6735 6890

info@pwntechnologies.com | **www.pwntechnologies.com**