February 13, 2024 Meidensha Corporation

To members of the media

Meiden Singapore receives order for ceramic flat-sheet membrane to be used for direct filtration at PUB's Chestnut Avenue Waterworks

Meiden Singapore Pte. Ltd. (Meiden Singapore), an overseas subsidiary of Meidensha Corporation (Meiden), has received an order from local Singapore company to supply ceramic flat-sheet membranes at Chestnut Avenue Waterworks (CAWW) in Singapore. In March 2023, local Singapore company was granted by PUB, Singapore's National Water Agency, for the SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF MEMBRANE TRAINS AT CHESTNUT AVENUE WATERWORKS, which will house the world's largest ceramic flat-sheet membrane filtration facility for drinking water treatment when completed.

The project is for the replacement of the existing polymeric membrane modules and ancillaries at the existing membrane facility in CAWW. The replacement work is scheduled to be completed in 2026.

The ceramic flat-sheet membranes are made of a very strong and durable material, alumina, which makes them resistant to a wide range of chemicals. They also have a longer life span. In addition to their durability and longevity, ceramic flat sheet membranes also contribute to greater energy savings. The membranes that are being supplied by Meiden Singapore can have a treatment capacity of up to 291,200m³ of water per day.

Meiden's ceramic flat-sheet membrane harnesses its properties as an immersed-type of membranes and will be installed in the existing tanks. This allows the installation costs to be minimized. These membrane features contribute to higher economic performance when compared to submerged polymeric membranes. They offer excellent product durability and longevity, resulting in reduced operating costs (such as for energy, maintenance and membrane replacement).

Meiden sees Singapore as a core base for expanding its ceramic membrane business. In 2010, Meiden signed a memorandum of understanding (MOU) with PUB concerning the joint development of water treatment technologies. Since then, the two parties have conducted demonstration research at various water treatment plants in Singapore.

- Meiden Singapore Pte. Ltd. Established in 1975, it is engaged in manufacturing and selling transformer products and assembling and selling ceramic membrane units in addition to specific engineering work. Link: https:// www.meidensha.com/msl/
- Ceramic flat-sheet membrane



ceramic flat-sheet membrane

- A ceramic membrane with a multitude of tiny pores that cannot be seen with the naked eye. As raw water passes through the pores, impurities are filtered out.
- A ceramic membrane with a thickness of six millimeters and a hollow structure. Through water-collecting pipes inside, clean and filtered water is collected.

Link:

https://www.meidensha.com/products/water/prod 06/prod 06 01/index.html