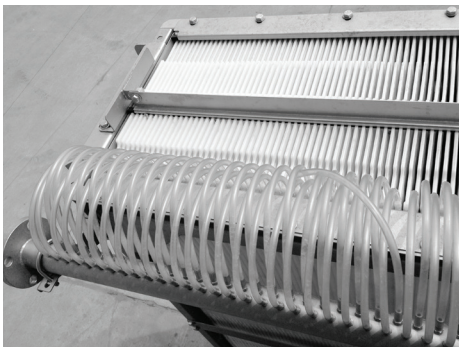


ADVANCED WASTEWATER TREATMENT SYSTEM

H₂O Innovation's Bio-Brane™ is an advanced wastewater treatment system that employs membrane bioreactor (MBR) technology in combination with Bio-Wheel™ technology for process aeration. The combination of these two advanced technologies allows both extremely high effluent quality while off-setting the increased energy requirements associated with membrane air scouring.



Swan Lake, Manitoba, Canada, 567 m³/d (104 gpm)

SYSTEM DESIGN

Other advantages of the Bio-Wheel™ such as improved nutrient removal and resistance to process upsets are also achieved, leading to a state-of-the-art approach to wastewater treatment.

The integration of fixed-film, suspended growth and membrane processes in Bio-Brane™ systems achieve a high effluent quality and low footprint associated with membrane filtration while maintaining a low level of energy consumption through the Bio-Wheel™ technology. The fixed-film growth also leads to the proliferation of mature bacteria that hold the potential to remove refractory compounds, further enhancing the effluent quality of the system.

TYPICAL EFFLUENT

- BOD < 5 mg/L
- TSS < 5 mg/L
- AMMONIA < 0.5 mg/L
- PHOSPHORUS < 0.5 mg/L
- FECAL COLIFORMS < 200 CFU/100 ml (with UV option)



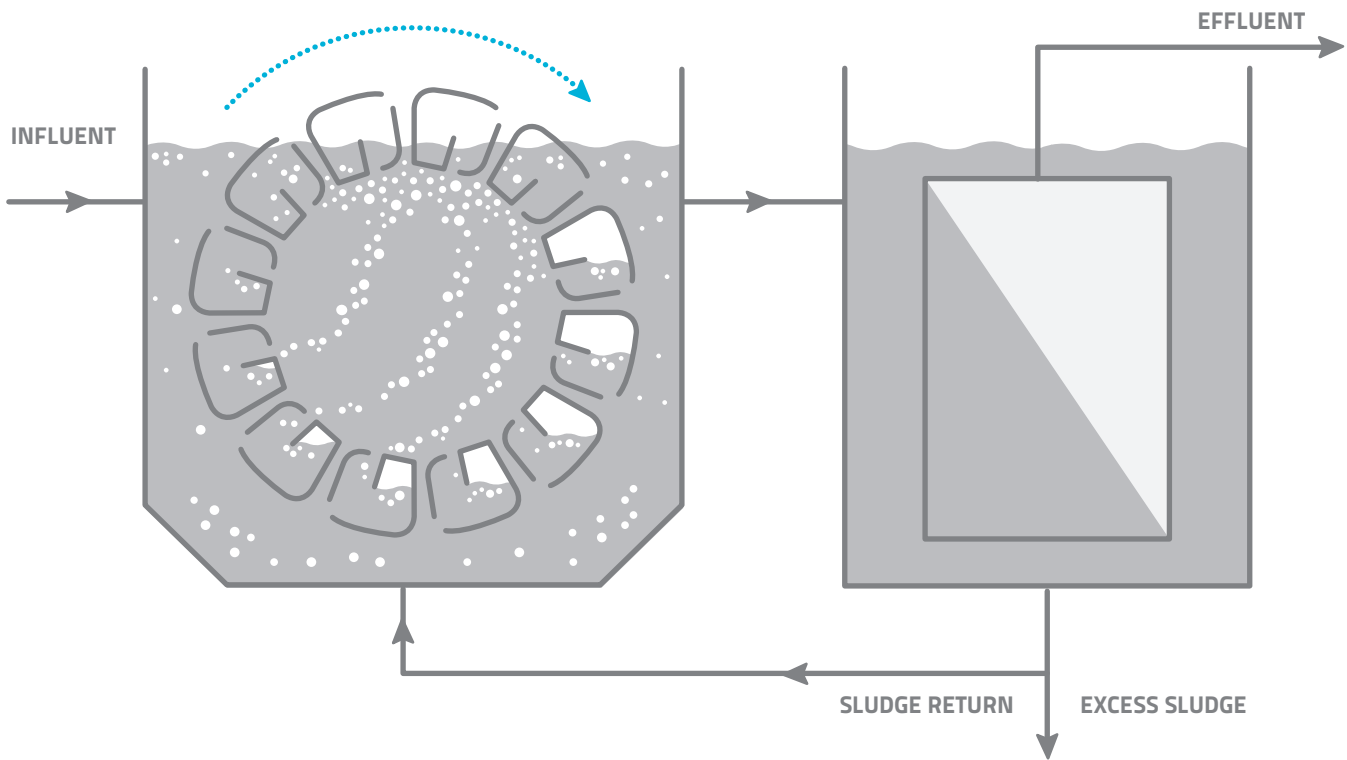
Corrugated plastic plate

AERATION AND MIXING

IN THE BIOREACTOR WITH
THE ROTATING BIO-WHEEL™

MEMBRANE FILTRATION

SOLID SEPARATION



ADVANTAGES

- Superior effluent quality
- Reduced energy requirements
- Improved nutrient removal
- No offensive odors
- Reduced plant footprint
- Resistance to shock loads
- Reduced sludge production