



# DynaSand<sup>®</sup> EcoWash<sup>®</sup>

## Hybrid Filtration

- Reduces reject (backwash)
- Reduces operation and maintenance costs
- Improves energy efficiency
- Improves filtrate quality

# History of Continuous Improvement

The DynaSand® continuous backwashing filter has been successfully applied in thousand of installations, providing optimum performance and filtrate quality while providing operators peace of mind. In order to make a robust technology even better, Parkson listened closely to our vast customer base. With a desire to improve our customers' experiences with the DynaSand filter, our engineers set about to deliver a filter that would maintain all of the benefits of the traditional method while addressing our customers' suggestions. As a result of this effort, the DynaSand® EcoWash® filter was created.

## What is the Dynasand EcoWash?

The DynaSand® EcoWash® hybrid filter utilizes a continuous filter, but instead of operating based upon hydraulics, it operates like a traditional filter based on solids. The system combines the benefits of conventional gravity filtration with all the benefits of a continuous backwashing filter into one design. EcoWash delivers unprecedented effluent quality for enhanced phosphorus removal, denitrification and water reuse. This hybrid filter results in better performance and also has the ability to be run in variable flows to keep solids loading efficient. Specific benefits versus traditional continuous backwashing filters include up to a 90% reduction in backwash water, lower chemical and energy consumption, and minimized equipment wear. Additionally, the DynaSand EcoWash is perfectly suitable for both new and existing filter wastewater treatment plants.



## EcoWash Highlights

- **EcoWash produces better quality filtrate than the traditional continuous backwash method.**
- **EcoWash uses a reliable sand movement detection system so consistent bed cleaning is assured.**
- **Backwashing is controlled via one of two modes:**
  - » Timer
  - » Differential Pressure

## EcoWash Function

The DynaSand EcoWash filter adds the element of a controlled backwashing function to allow intermittent backwashing of the filter, thereby reducing reject flows by up to 90%.

While intermittent backwashing is an established treatment process, it requires in-depth knowledge to avoid potentially negative factors which may not be obvious. One factor that made intermittent backwashing difficult in the past is that continuous filters can suffer from a decrease in filtrate quality whenever the washing operation is restarted. The DynaSand EcoWash filter overcomes this phenomenon by using a 'soft-starting' airlift so that filtrate quality is stable and always remains within target. This feature is especially beneficial in nutrient removal applications.



## Features

### Sand Movement Verification System

- Remote monitoring

### Reject Water Reduction

- Automatic reject control valve
- Programmed differential pressure control
- Programmed time control

### Soft Starting Airlift

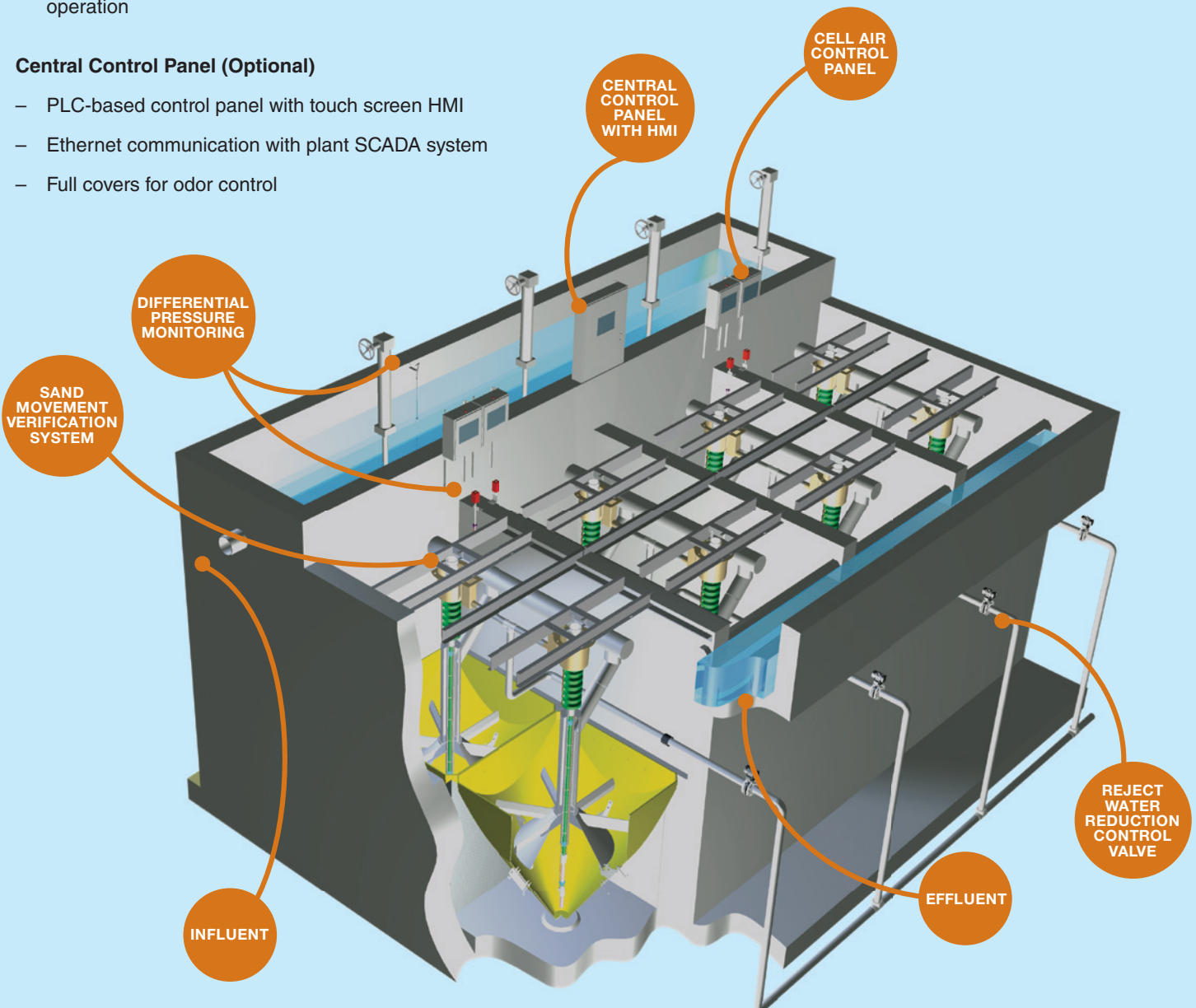
- Solenoids to control dual airburst and normal airlift operation

### Central Control Panel (Optional)

- PLC-based control panel with touch screen HMI
- Ethernet communication with plant SCADA system
- Full covers for odor control

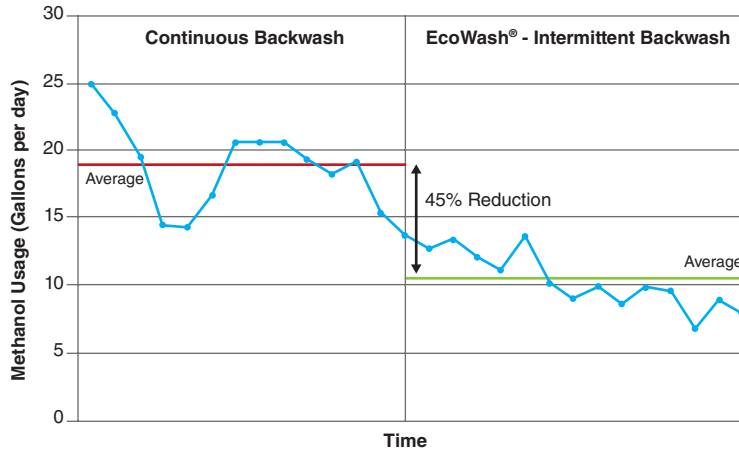
## Benefits

- Reduces reject water up to 90%
- Reduces energy consumption 60% - 90%
- Increases airlift life
- Improves effluent quality
- Reduces pretreatment chemical usage as much as 45%



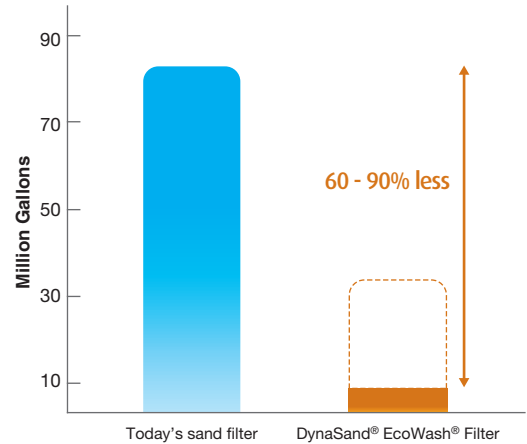
## EcoWash Denitrification Application

Methanol Consumption

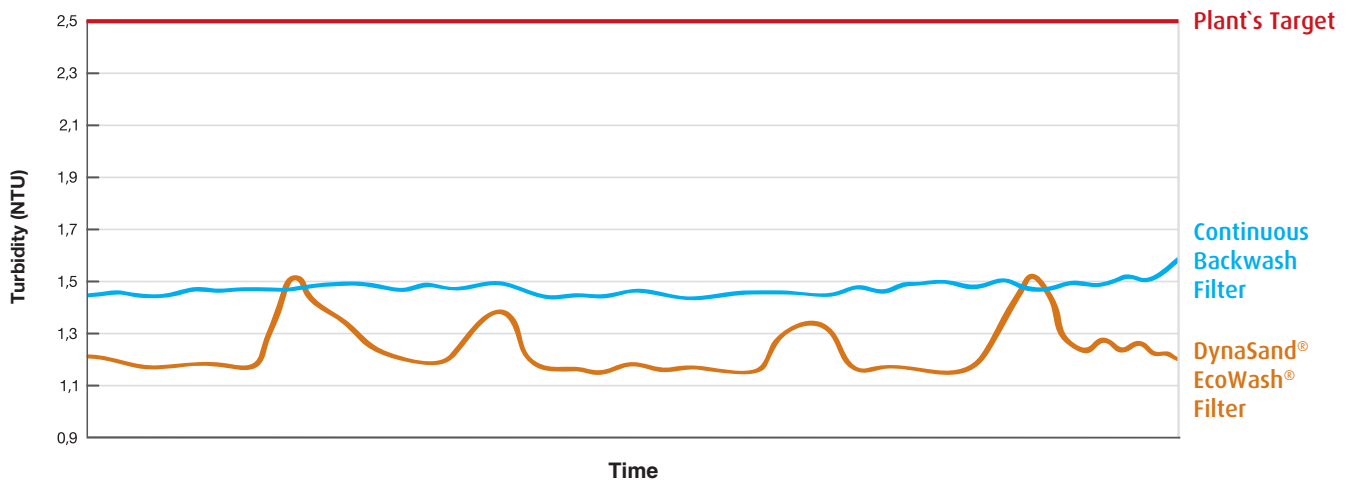


## Annual Reject Water Production

Reject Water Saved



## DynaSand® EcoWash® Filter Full Scale Performance



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