

Ostara's Pearl® FX System by Evoqua

NUTRIENT RECOVERY SOLUTIONS

Ostara's nutrient recovery solution, offered by Evoqua Water Technologies, helps transform wastewater treatment plants into true resource recovery facilities, helping create a circular economy.

The solution, Ostara's Pearl system, is an innovative and sustainable approach to wastewater management by removing nutrients from where they shouldn't be—in our waterways—and transforming them into high-performing fertilizers, proven to increase yields while reducing runoff and non-point source pollution.

Complementing the Pearl system is the WASSTRIP® system, providing a benefit to facilities using anaerobic digestion by releasing phosphorus and magnesium upstream before reaching anaerobic digester systems. The WASSTRIP system helps protect digesters and equipment from struvite scale formation, improves dewaterability, and reduces biosolids volume.

A MODULAR PHOSPHORUS RECOVERY SOLUTION

Ostara's Pearl FX system from Evoqua is a cost-effective modular nutrient recovery solution ideal for treatment plants that are from 5–30 million gallons per day (MGD) in size. The Pearl FX system is pre-engineered and pre-assembled package plant solution allowing for simpler and faster installation requiring less physical space and site preparation resulting in lower installation cost and maintenance. The Pearl FX system is ideally suited for treatment plants looking for a phosphorus recovery solution that will also allow for the mitigation of unwanted struvite formation with the added benefit of producing an environmentally friendly high performing fertilizer.








FEATURES AND BENEFITS

- Cost-effective package solution with minimal civil requirements
- Overall project CAPEX savings greater than 30%
- Fast turnaround—Installation and commissioning
- Operator-friendly controls
- Reduced product handling
- Final product is processed offsite by Ostara

Nutrient Recovery Benefits

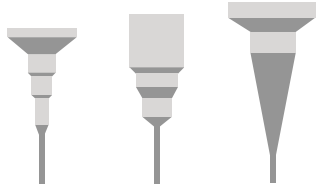
Ostara's Nutrient Recovery solution helps transform wastewater treatment plants into true resource recovery facilities.

-  Up to 85% of P and 40% of N removed
-  Helps meet P limits
-  Pure, eco-friendly fertilizer
-  Reduces chemical dependency
-  Revenue-generating offtake offsets operating costs



Ostara's Pearl® FX System Specifications

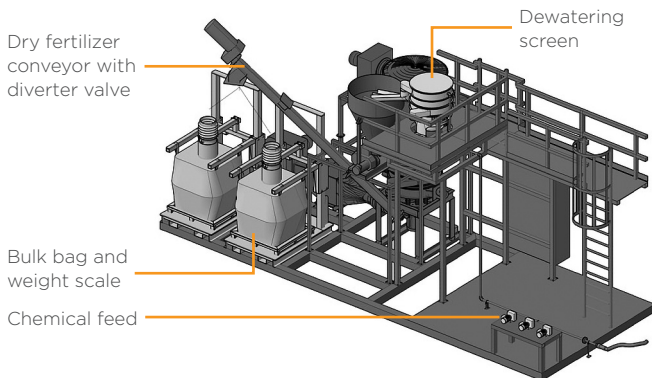
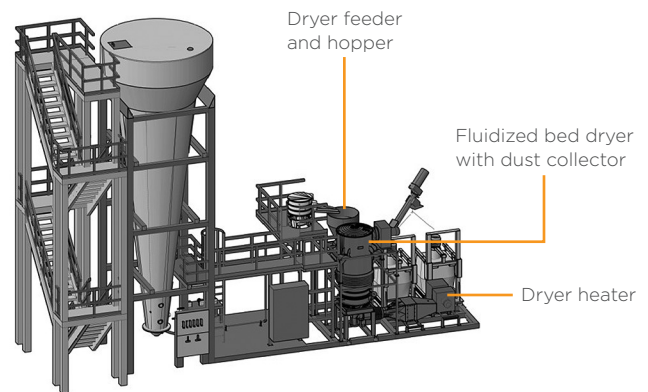
OSTARA'S PEARL® FX SYSTEM IS AVAILABLE IN THREE REACTOR SIZES DEPENDING ON PHOSPHORUS CONCENTRATION LEVELS IN THE WASTEWATER STREAM



P Concentration (mg/l PO ₄ -P)	50-400
Current Fx Reactor Sizes (@ 200 mg/l PO ₄ -P)	6'Ø = 70 lb/d 9'Ø = 300 lb/d 12'Ø = 525 lb/d
Hydraulic Capacity (gpm)	18-250
Average Production Capacity (CG tons/year)	65-475

FEATURES

- Simplified Design
 - No recycle single pass reactor
 - Simplified instrumentation and controls
 - Simplified product handling (unclassified product is processed offsite by Ostara)
- Modular Delivery
 - Pre-engineered and pre-assembled skid mounted design reducing installation costs and maintenance



PEARL FX SYSTEM EQUIPMENT

- Main equipment skid including piping and wiring
- Pearl FX System Reactor skid with motor control center
- Optional Dryer skid
- Pearl FX System Reactor skid
- Pearl FX System controls including:
 - NEMA 4X main control panel with PLC, HMI, I/O, and Ethernet switch for Evoqua supplied equipment
 - Remote I/O cabinet as required



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