

OSTARA'S PEARL[®]
SYSTEM BY EVOQUA

**THE STANDARD IN
NUTRIENT RECOVERY**



Turning Nutrient Challenges into Opportunities

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.

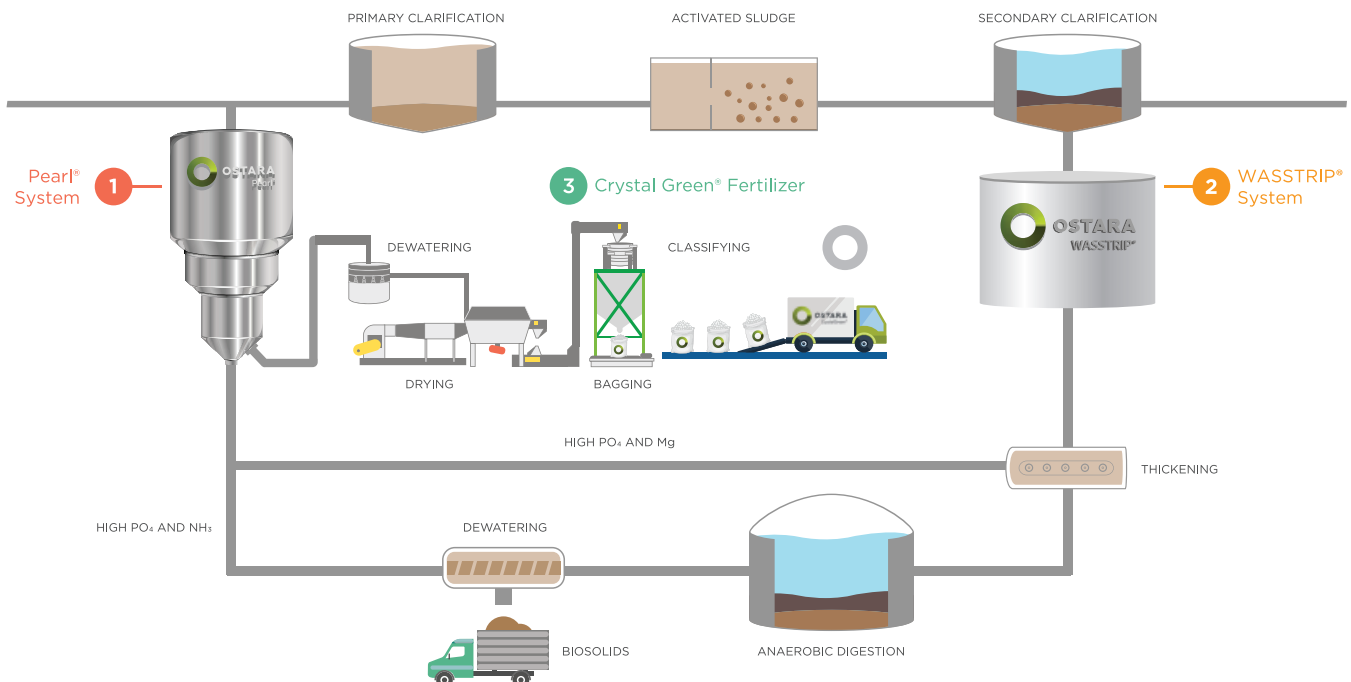


Ostara's Pearl® system by Evoqua is an innovative approach providing communities and industries with a process to manage valuable nutrients, while meeting strict phosphorus discharge limits.

CLOSING THE LOOP

This innovative nutrient recovery solution transforms recovered nutrients into eco-friendly fertilizer granules, which are harvested, dried and then distributed and sold by Ostara as Crystal Green® Fertilizer. This solution enhances biological nutrient recovery (BNR), lowers operational and maintenance costs and increases system reliability.

OSTARA'S NUTRIENT RECOVERY PROCESS



The Standard in Nutrient Recovery



Up to 85% of P and 40% of N removed



Helps meet P limits



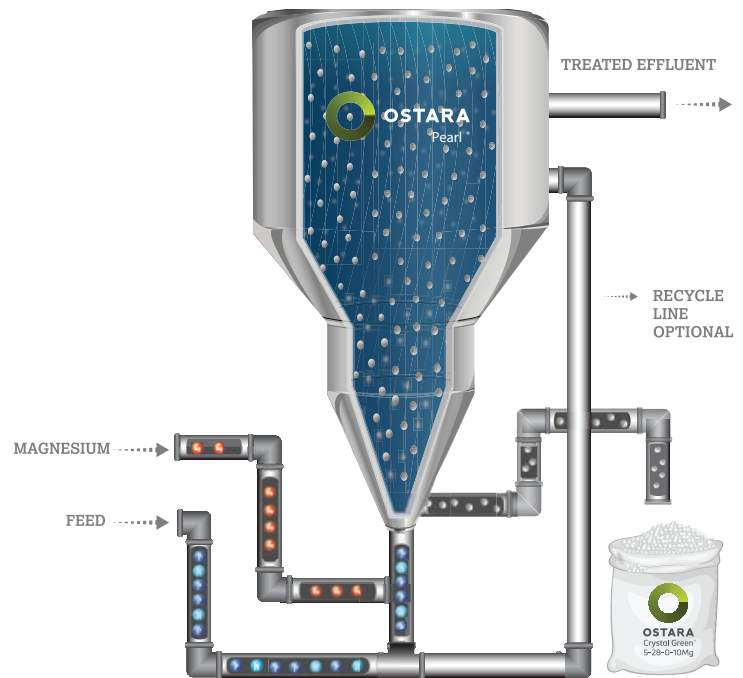
Pure, eco-friendly fertilizer ready for turf and agriculture



Reduces chemical dependency



Revenue-generating offtake offsets operating costs



OSTARA PEARL® NUTRIENT RECOVERY SYSTEM

Ostara's Pearl® system by Evoqua is a fluidized bed reactor designed to recover phosphorus from municipal and industrial waste streams through the controlled precipitation of crystalline struvite.

Within the Pearl system reactor, the growth of struvite (magnesium ammonium phosphate) is facilitated by the addition of magnesium in a controlled pH setting. This allows nutrients to crystallize into eco-friendly fertilizer granules which are harvested, dried and then distributed and sold by Ostara as Crystal Green® Fertilizer. The treated effluent is then discharged from the top of the reactor and returned to the plant with significantly reduced nutrient content.

Ostara's WASSTRIP® system is designed to remove internal phosphorus providing critical benefits to plant operations, turbo-charging nutrient removal and recovery in a controlled environment. The process tackles struvite issues, improves dewaterability and reduces biosolids production.

Optimize Plant Operations and Achieve Cost Savings

- Reduce phosphorus recycle
- Reduce struvite maintenance costs
- Mitigate digester struvite buildup
- Full cycle resource recovery
- Reduce chemical demand
- Commercial fertilizer production

Ostara's Pearl® system by Evoqua can remove up to 85% of Phosphorus (P) and 40% of Nitrogen (N) from the reactor feed.

TRANSFORMING
WATER
— ENRICHING —
LIFE



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