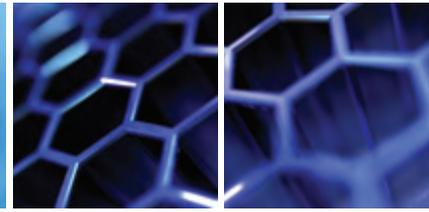


INFILCO

ACCELATOR®

Clarifier / Softener



CLARIFICATION

SOFTENING

HIGH
QUALITY

SOLIDS
CONTACT

← Applications

- Clarification
- Softening
- Color Removal
- Tertiary Wastewater
- Industrial Metals Removal



A recognized leader in its class, Infilco Degremont's Accelator® Clarifier is a high-rate treatment plant in a single basin that employs the principle of internal slurry recirculation.

MAIN FEATURES

- Highest Quality Softening Clarifier on the Market
- Internal Recirculation of Sludge
- Dynamic Separation of Solids
- Highly Efficient Use of Chemicals
- Pioneer of Solids Contact Clarifiers
- Industry Leader - Thousands of Installations



SEPARATIONS TECHNOLOGY : ACCELATOR® CLARIFIER/SOFTENER

The Accelator® Clarifier provides high-rate capacity in less than half the space of conventional sedimentation utilizing the principle of internal slurry recirculation to accelerate chemical reactions and dense particle growth. Mixing and reaction, return flow, and sludge removal functions are performed in a single-basin unit that requires less than half the volume of conventional multi-tank systems.

The key principle behind Accelator's operation is its low-shear rotor-impeller combination, which controls mixing and slurry recirculation at independent rates to handle rapid changes in water characteristics. The Accelator employs dynamic separation of slurry from clarified water allowing increased loading rates versus competing technologies.



ACCELATOR'S FOUR - ZONE TREATMENT PROCESS

The process begins with the raw water entering through the influent pipe into the primary mixing and reaction zone where it is mixed with the previously formed slurry and treatment chemicals.

1 ROTOR-IMPELLER:

The rotor-impeller provides controlled velocity mixing of the raw water and chemicals in the presence of a large volume of slurry in the primary mixing and reaction zone. The combination of returned slurry flow and rotor mixing prevents solids from settling on the floor of the basin. Precipitation takes place in the presence of previously formed precipitates, resulting in dense particle growth. The independently adjustable rotor-impeller circulates two to four times the design flow from the primary mixing and reaction zone to the secondary mixing zone where continued slurry contact allows the treatment reactions to approach equilibrium.

2 INTERNAL RECIRCULATION:

When the slurry leaves the secondary mixing and reaction zone, it is discharged downward between the inner and outer draft tubes in controlled motion, outward along the sloping hood and onto the surface of the slurry pool, where the treated water is displaced upward and collected in launders. The slurry is drawn

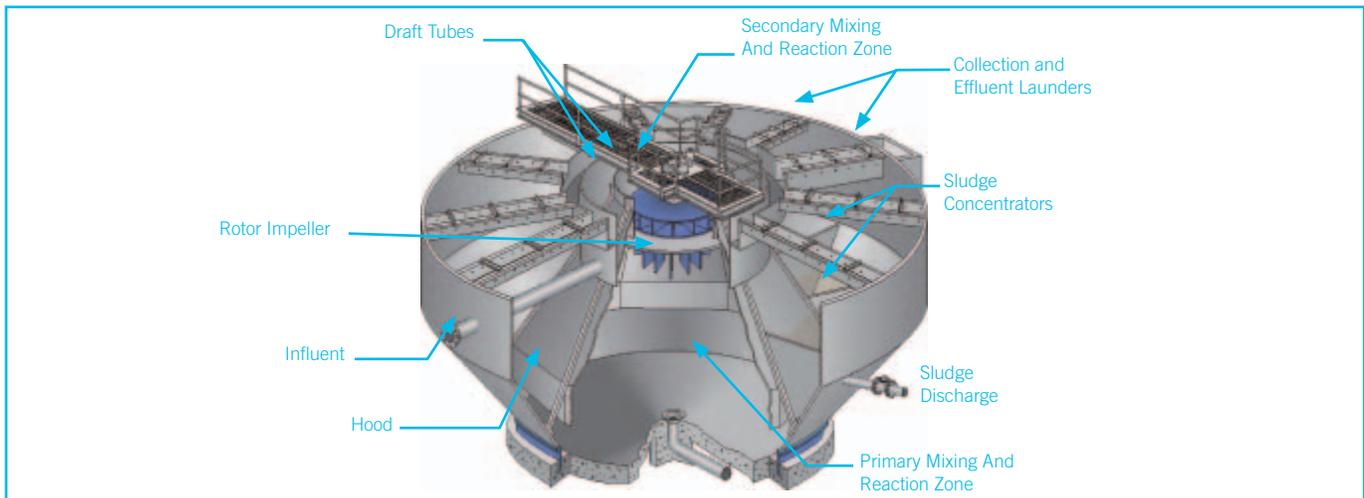
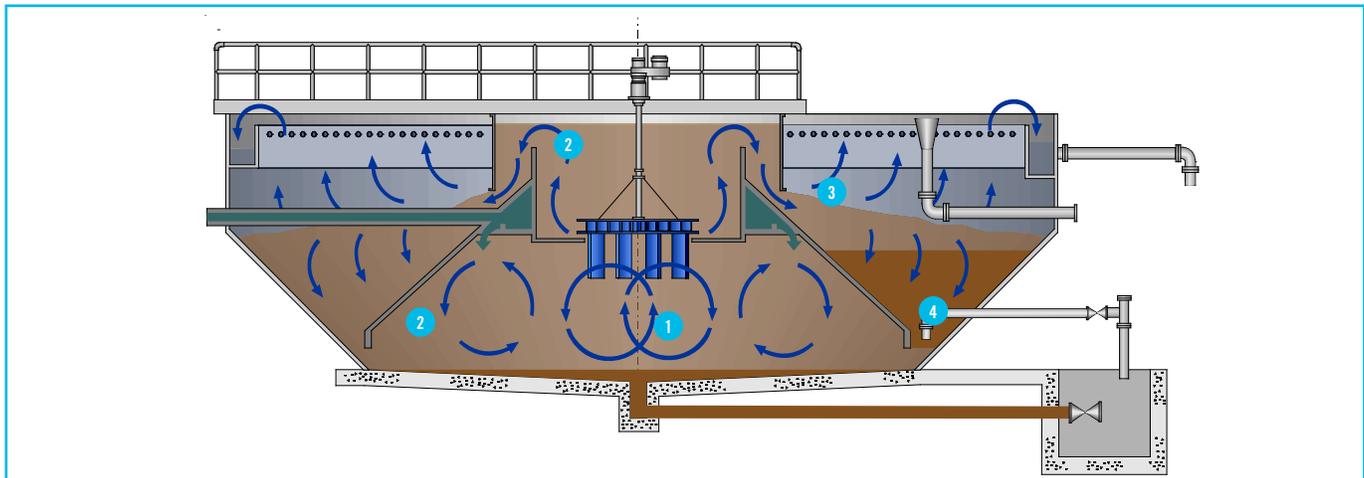
downward and back under the hood structure to the primary mixing and reaction zone by the suction produced by the impeller.

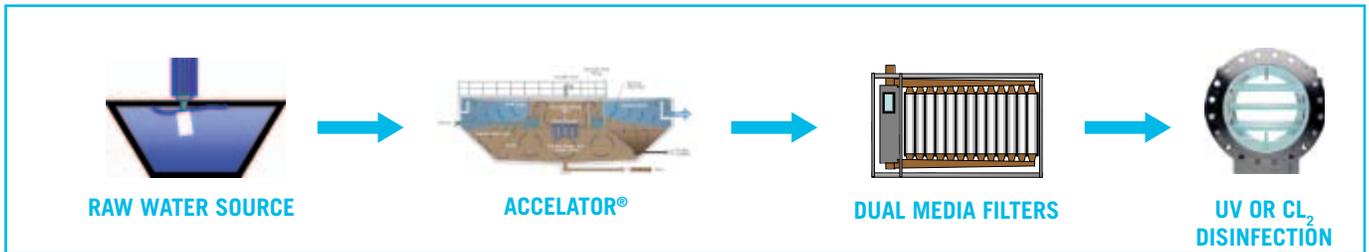
3 DYNAMIC SEPARATION:

Recirculation of the slurry is independent of the flow rate. This unique feature allows rapid changes in flow rate to be handled. This feature of directed flow and dynamic separation of the treated water from a downward moving mass of slurry characterizes the Accelator® operation.

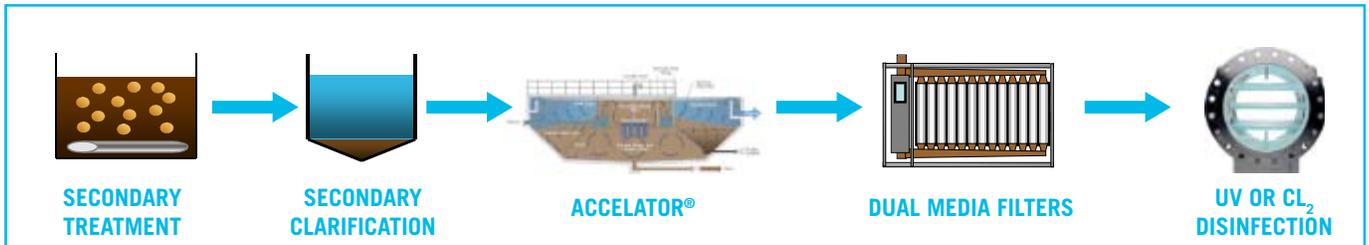
4 INTERNAL SLUDGE CONCENTRATORS:

To provide the best operation, concentration of solids in the recirculating slurry is kept at the optimum value for each treatment process. As the recirculating slurry volume increases, the excess is collected in the sludge concentrators. The sludge in the concentrators is thickened and periodically drawn off. A sludge blowdown valve is provided for each concentrator and operates on a controlled time cycle. The sludge blowdown frequency depends on the amount of sludge being produced and can easily be adjusted to accommodate changes in flow or influent water conditions.





DRINKING WATER - LIME SOFTENING OR CLARIFICATION



TERTIARY TREATMENT (PO₄ REMOVAL AND CLARIFICATION)

PERFORMANCE ADVANTAGES

- Superior Effluent Quality.**
 Accelator's uniform slurry concentration produces consistent, high-quality effluent that's less susceptible to upsets in the plant. Treated water turbidity is normally between 1 - 3 NTU.
- Efficient Operation.**
 The independently adjustable rotor-impeller lets you customize the unit for site-specific conditions. Only one gear reducer and motor is required to achieve dual functions.
- Dynamic Separation.**
 Solids are recirculated in and out of the hood mechanism, resulting in a point of dynamic separation, where the slurry is moving downward and the clarified water is displaced upward. This yields higher loading rates and units are less prone to upsets from flow variation versus competing "sludge blanket" type solids contact units.

DESIGN OPTIONS

- "NS" Accelator Model:**
 The first solids contact clarifier on the market, the "NS" (no bottom scraper) maintains active slurry volume throughout the treatment zones. The economical choice for small to medium size applications, the "NS" Accelator® allows for waste sludge removal without the use of bottom scrapers.
- "IS" Accelator Model:**
 The "IS" (Internal Scraper) model incorporates sludge scrapers and bottom sumps to accommodate large amounts of waste sludge. The scraper drive assembly operates above the water level with no underwater bearings. The "IS" type is generally suited for specialty applications or very large diameter units.
- Package Systems - Accelapak®:**
 The Accelator system is available in steel package units with or without a package gravity filter. Unit sizes are available from 50 to 350 gpm.

DESIGN SPECIFICATIONS

Accelator®	Single Unit Capacity 1.0 - 3.0 gpm/ft ²
NS Model	0.5 to 15 MGD
IS Model	0.5 to 40 MGD

Technical Features

- Loading Rates: 1.0 to 3.0 gpm/ft²
- Start-up and shutdown within minutes
- Retrofit existing sedimentation basins
- Round or square configurations available
- Steel tank or concrete units available
- Highly efficient use of chemicals
- NS (no scraper) and IS (internal scraper) models

COMPLETE TREATMENT SOLUTIONS

Infilco Degremont offers an array of water, wastewater and industrial treatment solutions for any size client. Headworks, clarification, filtration, biological and disinfection systems are several of the product disciplines in our portfolio.

If interested in this product, check out some of the complementary SEPARATIONS products:

- Superpulsator® Clarifier
- AquaDAF® Clarifier
- Greenleaf Filter System
- Tetra™ Block Underdrains
- DensaDeg® Clarifier/Thickener

With a variety of filtration and clarification products in our SEPARATIONS department, Infilco engineers carefully evaluate each application to provide the most cost-effective and efficient treatment solution.

- Monoflor® Nozzle Underdrains
- ABW® Automatic Backwash Filter
- PulsaPAK® Package Clarifier/Filter System
- AquaPAK Package Clarifier/Filter System
- AccelaPAK® Package Clarifier-Softener/Filter

PILOTING SERVICES

Infilco offers pilot systems and services for the equipment in this brochure as well as many of our other product offerings. Pilot studies are a practical means of optimizing physical-chemical and biological process designs and offer the client several benefits, such as:

- Proof of system reliability
- Optimal design conditions for the full-scale system
- Free raw water lab analysis
- Regulatory approval

If interested in a pilot study for this system, please contact us for a proposal.



SERVICES INFILCare®

Part Sales

Infilco Degremont sells parts and components for most INFILCO brand equipment as well as parts for demineralizers, thickeners, nozzles, pressure filters, and valves. We offer reliable spare parts at competitive prices. We maintain records of previous installations to quickly identify your requirements. Many items are shipped directly from stock for quick delivery.



Rebuilds, Retrofits and Upgrades

Infilco Degremont offers cost-effective rebuilds and upgrades for INFILCO provided systems, no matter what year they were built. If you are interested in an economical alternative to installing a whole new system, contact us for a proposal.



Contacts

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