Designed to improve the quality of hard water, Actiflo Softening combines the operations of clarification and decarbonation/softening in a single compact unit to reduce the alkalinity and hardness of water. At the same time, the process also eliminates other undesirable components such as silica, heavy metals, fluorides and phosphates together with suspended solids and organic matter.

Fast and effective, Actiflo Softening produces very high-quality water for industrial and municipal applications.

### The Actiflo Softening process

The operating characteristics of Actiflo Softening are identical to those of Actiflo, giving it the advantages of fast, high-performance treatment.

Upstream of the coagulation, flocculation and sedimentation basins, Actiflo Softening has a Turbomix™ reaction tank into which chemical products are injected to form insoluble compounds.

A recirculation circuit with a specific hydrocyclone recovers clean microsand, returns the decarbonation and softening sludge to the reactor and purges excess sludge from the process.
ACTIFLO® SOFTENING

Advantages

- Small footprint: up to 10 times more compact than conventional decarbonation or softening processes
- High upward flow rate: up to 27 gpm/sf
- Easy installation in existing tanks
- Improved mixture and accelerated chemical precipitation reaction thanks to the Turbomix tank
- Reduced coagulant consumption due to the recycling of carbonate sludge in the Turbomix tank
- Sludge characteristics: up to 8% dry matter; can be easily thickened and dried
- Easy to commission: start-up in a few minutes
- Can be fully automated and deployed in existing plants at reduced cost

Applications

Actiflo Softening, an ideal solution for:

Industrial applications

- Pre-treating water to avoid membrane fouling
- Production of make-up water for cooling towers and water recycling
- Treating water used in oil and gas production
- Treating SAGD (Steam Assisted Gravity Drainage) water in condensate circuits
- Treating wastewater from combustion gas desulfurization and acidic mining effluents
- Reusing wastewater in iron, steel and other metal industries
- Phosphorus co-precipitation

Municipal applications

- Decarbonation and softening of surface or borehole water to produce drinking water

REFERENCES

- Chelyabinsk Power Plant, Chelyabinsk, Russia - 2.3 MGD (2015)
- Athy, Kildare, Ireland - 7.6 MGD (2014)
- EDF Bouchain, France - 6.8 MGD (2014)
- ENEL, Porto Tolle, Italy - 7.1 MGD (2014)
- Grande Raffinerie Oranaise de Sucre (GROS), Oran, Algeria - 0.26 MGD (2014)
- Vale, Long Harbour Processing Plant, NL, Canada - 7.6 MGD (2013)
- Abengoa Solana, Gila Bend, AZ, USA - 6 MGD (2013)
- JIFCO sulfuric and phosphoric acid plant, Eshidiya, Jordan - 3.4 MGD (2013)
- Kerry Ingredients & Flavors, Listowel, Ireland - 0.95 MGD (2013)
- Laurier Station, QC, Canada - 0.53 MGD (2013)
- Gahard, France - 0.53 MGD (2011)
- Coca-Cola, FEMS A, Acapulco, Mexico - 0.63 MGD (2009)

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