

ACTIFLO® HCS

To reduce the volume of sludge produced and related water losses

Designed to reduce the amount of sludge produced and related water losses, Actiflo® HCS (for High Concentration Sludge) is an Actiflo system equipped with an outside recycling loop. It is the conception of this loop that ensures that the volume of sludge produced is reduced.

Actiflo HCS offers a unique design allowing for optimal use of installed equipment with lower operating costs. With less sludge and residue output on the way out, the investment required for treatment downstream is also reduced.

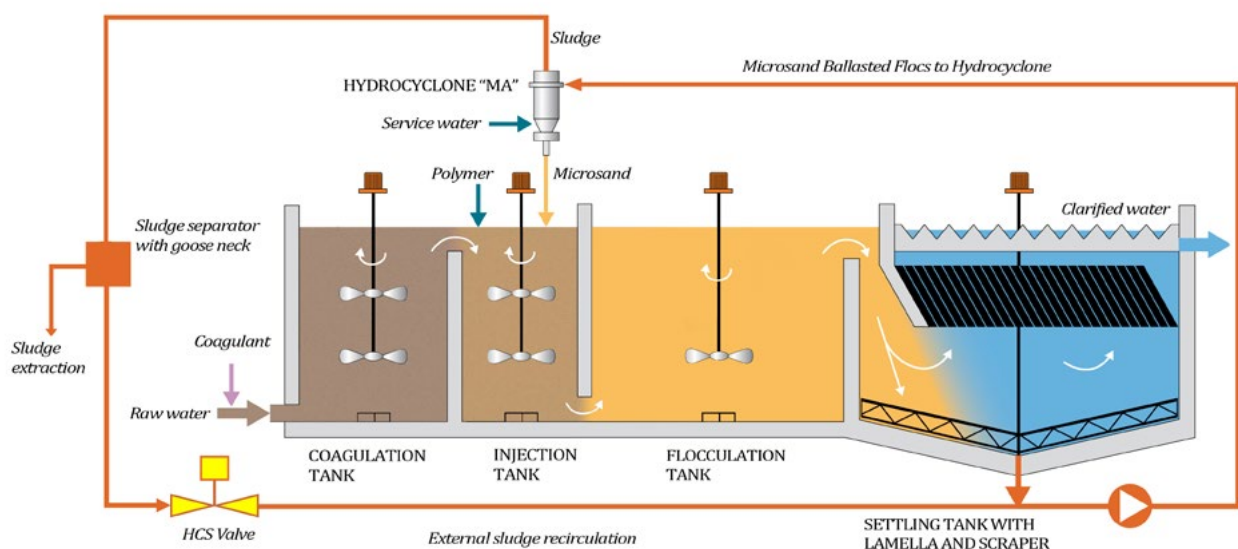
Operating principle

The operating characteristics of Actiflo HCS are the same as those of a conventional Actiflo, thereby ensuring all of the advantages of fast and high performance treatment. Its principal feature is that it comes with a specific hydrocyclone* and an external recirculation loop.

After settling, the sludge/microsand mixture is pumped to the hydrocyclone where the microsand is thoroughly washed. The flow of clean microsand is injected back into the flocculation tank.

The flow of sludge is directed in part towards the recirculation loop with the other part being discharged. Regulation for this system is based on the use of a control valve that precisely manages the proportion of sludge discharged out of the process and the proportion retained within the recirculation loop. Actiflo HCS therefore reduces the amount of sludge produced by 2 to 3 times, while still maintaining a high clarification level.

**An «MA» type hydrocyclone specially designed for Actiflo HCS*



Advantages

- A 50 – 80% reduction in sludge volume
- Water losses reduced to under 0.5%
- A reduction (in size and number) of the facilities used to treat dirty water/sludge from the Actiflo
- Easy to implement in refurbishing projects

Performance

| | Flow m ³ /h | Turbidity | | HCS Valve % open | Cyclone Feed m ³ /h | Sludge Discharge | |
|-------------|---------------------------|-----------|-----|---------------------|-----------------------------------|-------------------|-------|
| | | In | out | | | m ³ /h | mg/l |
| Actiflo HCS | 43 | 7 | 0,8 | 0 | 2,5 | 2,4 | 980 |
| Actiflo | 44 | 6 | 0,8 | 42 | 2,5 | 0,26 | 9 200 |

Some references

Municipal drinking water

- › Chomedey, Laval (Greater Montreal), Canada, 2013, 273,000 m³/day
Treating river water/high turbidity peaks, decanting rate: 68 m/h
- › Pont Viau, Laval (Greater Montreal), Canada, 2013, 135,000 m³/day
Treating river water/high turbidity peaks, decanting rate: 40 m/h
- › Gitanmaax Band Village, Hazelton, Indian Reserve, Canada, 2012, 1,400 m³/day
Treating river water, decanting rate: 55 m/h
- › Okotoks Ground, Canada, 2011, 22,000 m³/day
Treating turbidity peaks, decanting rate: 54 m/h

Industrial applications

- › Japan Nippon Steel & Sumitomo Metal, Kimitsu, Japan, 2014, 14,000 m³/day
Treating effluents (metals, coke and coal dust), decanting rate: 120 m/h
- › Nippon Steel & Sumitomo Metal, Kimitsu, Japan, 2014, 40,000 m³/day
Treating effluents (metals, landfill leachate, urban rain water), decanting rate: 100 m/h
- › CEZ Pocerady, Czech Republic, 2011, 24,000 m³/day
Treating river water to produce process water for boiler cooling (in the energy sector) Actiflo Turbo HCS, 40 m/h