



Adapt your Paques IC[®] reactor to scaling conditions

BIOPAQ[®]IC Upgrades

Prevent biomass deposition and loss of mixing under increased scaling conditions in your IC reactor, by modifications chosen from the Paques' service product range.

The BIOPAQ[®]IC's are known for the excellent mixing and contact between biomass and influent. Nowadays, the increased scaling character of some waste waters calls for adaptations in operation and technique in order to keep a high rate conversion process.

With the presented modifications of a BIOPAQ[®]IC Upgrade of Paques, your aged IC reactor will be able to treat this influent for many years in the future. A BIOPAQ[®]IC Upgrade is the solution for your challenge.

The challenge

- Increased inorganic contents in biomass
- Biomass deposits
- pH fluctuations
- Increased hardness in the influent
- Clogged inlets
- Decreased internal circulation
- Mechanical damage to the internals
- Cold spots to the tank wall

The solution

- Sturdy Mixing Chamber
 - no deformation
 - improved mixing
- Heavy Sludge Discharge System (HSDS)
 - several extraction points around the footprint
 - easy handling by sludge header
- Short down-time during rebuild

The benefit

- Improved mixing of heavy granules
- Damage prevention
- Selective extraction of heavy granules
- Growth of high quality granules
- Enhanced operational stability
- Easy to purge
- Unaltered volume, max. flows, recirculation and pre-pressures

Facts and figures

BIOPAQ[®]IC: 1000 references world wide | More than 20 years of BIOPAQ[®]IC experience | Diameters of 3 to 15 meters | Upgraded with mixing chamber | Branches with scaling conditions: pulp and paper, PTA, sugar and distilleries



How to perform a BIOPAQ®IC Upgrade

Tailor-made to your original drawings, the implementation of a mixing chamber and biomass HSDS extraction line will enhance the operational stability of your IC reactor. Biomass deposition and loss of mixing under increased scaling conditions are prevented. The refurbishment meets the specifications of the obsolete system for the water flow capacity and pre-pressure.

BIOPAQ®IC Upgrade in practice:

- take the reactor off-line and make safe
- remove all biomass and store
- clean-out settlers and tank thoroughly
- removal of temporary tank door for getting new mixing chamber in place
- mount new mixing chamber connected with the existing influent header
- temporary tank door for getting new mixing chamber in place
- mount biomass extraction header with biomass valves
- biomass extraction header with biomass valves

The IC Upgrade is an excellent moment to have a thorough cleaning and inspection of the internals and tank of the existing reactor!

Your reactor, in a functional new state, with the following features:

- several biomass harvesting lines to a circular collection header
- back flush and stir-up function via separate nozzles
- easy and clean operation for daily use
- stable biomass quantity and quality

More and more clients perform a BIOPAQ®IC upgrade. They now stabilise the granular biomass composition by the HSDS extraction line.



More information

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