# CFAS®-IFAS COMBINED FIXED FILM ACTIVATED SLUDGE

## ABOUT FIXED FILM TECHNOLOGY

The basis of our CFAS® biofilm technology is the biological growth on polyethylene pieces called media or carriers. These surfaces provide a protected room for the biology to grow. The biofilm can handle extremely high loading conditions without any problems with clogging or shock.

Biowater's CFAS® (IFAS) solution represents a key technology for winning strategic deals now and in the near future.



### **PROCESS BENEFITS**

Biocarriers.

Upgrade of existing activated sludge plants to achieve nitrification.

**Compact -** Doubles the capacity of an existing activated sludge plant. For new plants the carbon footprint is very small. For retrofits existing tanks can be used.

Flexible - BOD, Nitrogen and Phosphorus removal can be included.

**Stable -** Self regulating biofilm ensures stable treatment under variable loads. No clogging.

**Sludge Production -** Produces sludge with low sludge volume index. This is efficient for following separation and sludge treatment process.

**Low capital costs** - The installation is based on traditional technical equipment.

**Complete System Supply -** We offer system complete with biofilm carriers, aeration sieves, mixing, tanks as well as any tertiary treatment or additional equipment to suit the design.

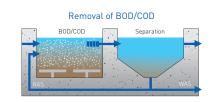


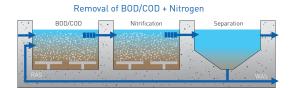


Bioreactor being filled with media.

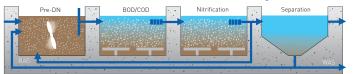
# **CFAS® IFAS CONFIGURATIONS**

The choice of treatment setup will depend on both the preferred primary and tertiary treatment. The process can be as followed.

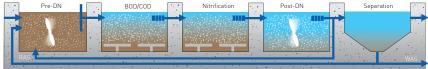




Pre-Denitrification - removal of BOD/COD + Nitrogen



Pre-/post-Denitrification - removal of COD/ BOD + Nitrogen



# **SERVICES**

Biowater Technology will guide you through the process form start to finish.

- Upgrade existing plants
- Greenfield plants
- Training/education
- Consulting
- Pilot testing
- Budgetary planning
- Energy analysis

**HEADQUARTERS** Biowater Technology AS Rambergvn. 5, 3115 Tonsberg, Norway

Phone: +47 911 10 600 email: post@biowater.no

#### **BIOWATER USA**

Biowater Technology US LLC 2155 Diamond Hill Rd, Suite 2, Cumberland, RI 02864

Phone: +1 401-305-3622 email: sales@biowatertechnology.com



Biowater – CFAS® - BWTX at Trysil, Norway.

"We are all very pleased with the new sewage treatment plant. Careful considerations and good planning has given us great value in return" says Trond Nerby, Project Manager for the new plant at the municipality of Trysil in Norway.

#### **Products from Biowater:**

**CMFF** - Complete Mix Fixed Film **CFAS** - Combined Fixed Film Activated Sludge **CFIC** - Continuous Flow Intermittent Cleaning

**Package Plants** 

Biowater Technology is an innovative company with over 40 years of experience in the biological treatment field. Our focus is on saving energy and resource recovery, with water as our major resource.