

# WASTE WATER TREATMENT



INNOVATION

ENGINEERING

OPTIMIZATION

## BayFlotech® – make things clearer

### Our service ...

BayFlotech® is used to remove suspended particles from process water and wastewater. It is particularly efficient in the typical applications for dissolved air flotation (DAF). The plant is considered as a package unit for flows of 100 to more than 1000 m<sup>3</sup>/h and may where necessary be adapted to the desired process parameters.



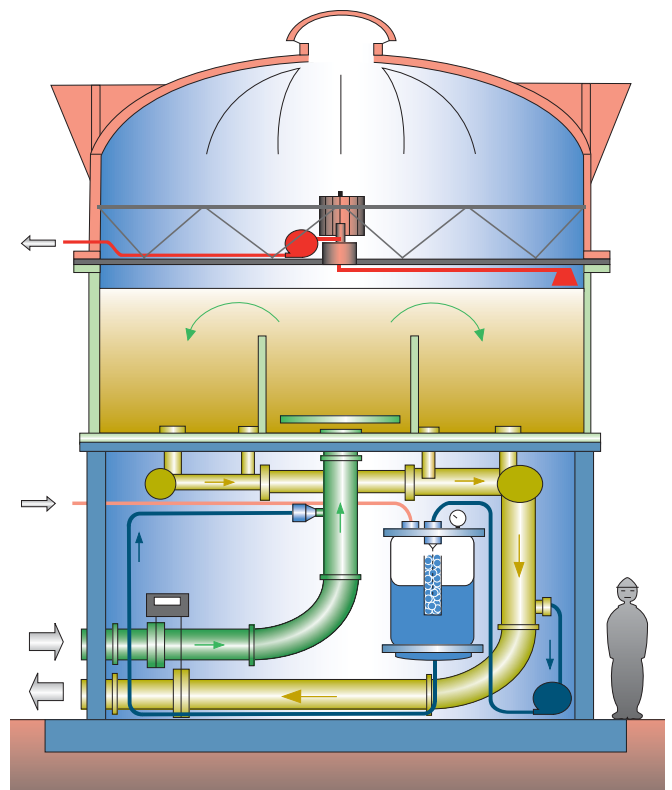
Lab unit for air saturation and bubble size distribution testing

### ... is your gain

- Extremely low operating costs down to 0.02 EUR/m<sup>3</sup> due to optimal usage of flocculation agents and energy-efficient air dissolving
- Outstanding separation efficiency yielding consistently high quality of the clarified water with total solids concentration lower than 20 mg/l and good sludge thickening up to 50 g/l
- Very low required recycling flow for air saturation at only 10 % of the feed is possible
- Low energy consumption for the air saturation and the sludge pumps of about 10-30 Wh/m<sup>3</sup>

### Special characteristics

- Space-saving construction with circular basin geometry and special flow control
- Separation of turbulent aeration and calm flotation zones
- Rotating sludge suction nozzle to ensure maximum total solids concentration without disrupting the hydraulic system
- BayDissolver® our patented air saturation technology to obtain the required air volume



Schematic representation of a BayFlotech® unit



Bayer Technology Services  
Powering Your Performance

## Our approach

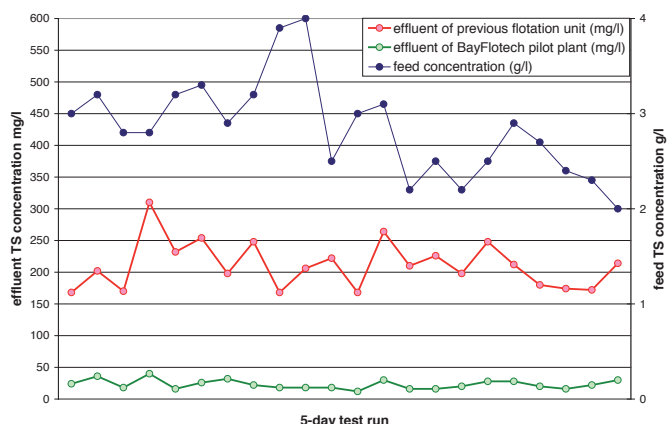
BayFlotech® is particularly suitable

- For pre- and post-clarification
- For solids separation following precipitation
- As a third purification stage after sedimentation and biomass removal in treatment plants
- For (excess) sludge thickening
- For pretreatment upstream a membrane stage

In wastewater treatment plants, BayFlotech® is an elegant solution to the problems of bulking, floating and rising sludge. In water treatment plants for pretreatment upstream of a membrane filtration (e. g. for desalination) consistently high quality of the clarified water has been proven to be a major advantage even for various raw water conditions. Employing this technology, outstanding water qualities have been achieved. Our mobile Lab Container for pilot tests on site ensures a fast and detailed scale-up for your special process.



Mobile Lab Container for pilot tests on site



The diagram above displayed the results of a 5-day pilot-scale test run for the reduction of total solids in the effluent. Even for significant variations in input parameters regarding total solids concentration, a comparatively constant effluent quality was obtained parallel to a major reduction of total solids in the effluent.

## References

We have broad experience in various industrial sectors and applications:

- Wastewater treatment plant, Currenta GmbH & Co. OHG, Uerdingen, Germany; capacity 1200 m<sup>3</sup>/h, as 3rd purification stage; 1997
- Joint wastewater treatment plant, Leverkusen, Germany; capacity 2600 m<sup>3</sup>/h, as 3rd purification stage; 1999
- Wastewater treatment plant, Bayer AG, Antwerpen, Belgium; capacity 540 m<sup>3</sup>/h, as 3rd purification stage and for activated sludge removal; 2000
- Wastewater treatment plant, INEOS Köln GmbH, Cologne, Germany; capacity 3000 m<sup>3</sup>/h, as 3rd purification stage; 2001
- Wastewater treatment plant, Evonik Degussa GmbH, Lüllsdorf, Germany; capacity 600 m<sup>3</sup>/h, as 3rd purification stage; 2002
- Wastewater treatment plant, Currenta GmbH & Co. OHG, Dormagen, Germany; capacity 540 m<sup>3</sup>/h, as 3rd purification stage and for activated sludge removal; 2003
- LANXESS AG, La Wantzenau, France; capacity 100 m<sup>3</sup>/h for process wastewater treatment; 2005
- LANXESS Deutschland GmbH, Dormagen, Germany; capacity 300 m<sup>3</sup>/h for process wastewater treatment; 2007
- Wastewater treatment plant, Bayer MaterialScience AG, Brunsbüttel, Germany; capacity 200 m<sup>3</sup>/h as 3rd purification stage; 2008