

# Carrier Frontier

## New Functional Media

Carrier Frontier mixed with a substance compatible with microorganisms.

Negatively-charged microorganisms are drawn to this media

BOD-SS loading is smaller when using Carrier Frontier compared to ordinal media and the quality of treated water improves leading the processes stable.



## Features

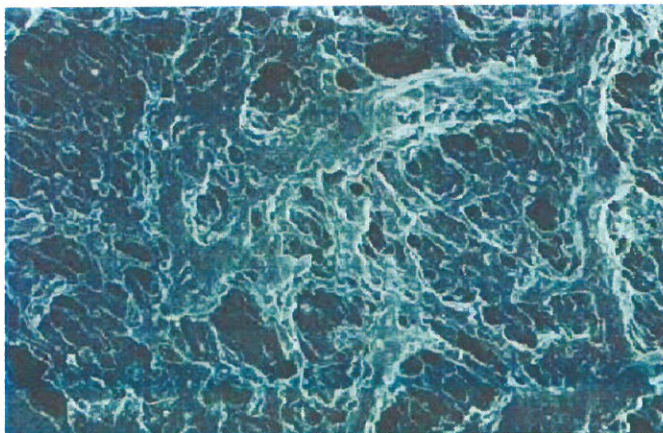
- 1 Many microorganisms attach to the media soon  
The process starts quickly

The process starts 2-3 weeks faster than usual.

Carrier Frontier with positively-charged surfaces can be attached by many negatively-charged microorganisms.

- 2 High-loading operation

A large deposit of microorganisms allows a low setting of BOD-SS loading, that enables high-concentration and loading operation.



This media surface

(the photo of Scanning Electron Microscope)

## Performance

Carrier Frontier keep many microorganisms



Low BOD-SS loading

Treatment performance test of different media was carried out.

	φ15×7.5	φ20×10
Gross weight of media deposit MLSS (g)	2.79	4.64
Total weight of MLSS (g)	131	124
BOD-SS loading (kg-BOD /kg-SS)	0.610	0.648

(Operating condition)

Volume : 0.06 m<sup>3</sup>

BOD volumetric loading : 2.0kg-BOD / m<sup>3</sup> · day

Carrier Frontier with positively-charged surfaces can be attached by negatively-charged microorganisms. That makes BOD-SS loading small and improves the quality of treated water. Nitrification reaction is promoted with longer SRT and the process is stabilized.

## Microorganisms on Carrier Frontier



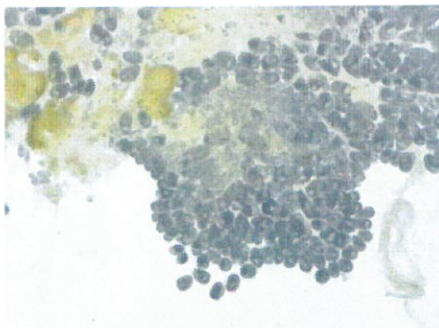
Carrier Frontier with microorganisms



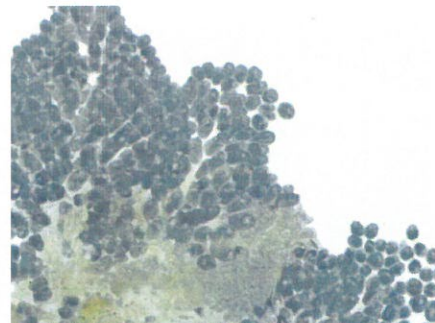
Rotifera



Tardigrada



Vorticella



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