



**Cellwood Machinery**  
FOR BETTER PULP AND PAPER

# ALGAS MICROFILTERS – for all your water treatment needs



 **ALGAS**  
MICROFILTER

**CELLWOOD  
MACHINERY**

# FIBRE RECOVERY, WATER RE-USE AND EFFLUENT TREATMENT

## A WORLD OF EXPERIENCE

The Algas Microfilter concept has been supplied world-wide for over 30 years, with many hundreds of installations, mainly to the pulp and paper industry. Originally the filters were designed for the recovery of fibre from white water and producing a filtrate of sufficient quality for re-use.

Today the need to save and re-use more water is ever increasing, the flexible concept of the Algas Microfilter has allowed Algas to successfully launch into other areas of water treatment.

## HANDLES MOST OF YOUR WATER TREATMENT NEEDS, BY:

- Recovering fibre & raw materials
- Reducing water consumption by increasing the quality and quantity of treated water for safe re-use
- Saving a lot of energy by replacing cold fresh water with warm treated water
- Retaining power, energy and heat with the recycled water
- Reducing effluent discharge flows
- Meeting discharge standards

## TOTALLY FLEXIBLE - FOR A WIDE RANGE OF APPLICATIONS

**Algas Microfilters have basically the same design for all applications, ranging from:**

- River water treatment
- Fibre recovery - using the clear filtrate to replace fresh water.
- Improving "clear" water from existing savealls, disc filter, DAF etc. to a SUPER CLEAR quality
- Treating filtrate from screw presses, saving water, fibre and fractionating out fines & filler when appropriate
- Separate treatment of DIP Sludge
- Increasing capacity of existing effluent systems or just Algas Microfilters for primary effluent treatment
- Treating black liquor
- Pre-Thickening of bio sludge
- Microfiltration after final bio treatment for water re-use or discharge, meeting current limits



*No sedimentation basins – just compact Algas Microfilters for primary effluent treatment.*

# MORE “SUPER CLEAR” FILTRATE FROM EXISTING SAVEALLS

Good quality filtrate has always been a feature of the Algas Microfilter performance. Existing savealls often cannot provide a water quality which satisfies today’s needs and demands. Using Algas filters to further treat clear and sometimes cloudy water from existing savealls, provides an opportunity to produce a SUPER CLEAR quality in increased quantities. A fast and simple installation of an Algas Microfilter can give a dramatic reduction in raw water consumption. This will also mean a corresponding reduction in the size of the waste water plant, and in some cases, final discharge costs.



In future mill projects, effective water conservation will be one deciding factor for project go-ahead.

An Algas Microfilter polishing the clear filtrate coming from a disc filter

## FINANCIAL RETURNS FROM YOUR INVESTMENTS IN WATER

Savings: The possibilities are there.

Check for yourself:

Fibre savings in tonnes per year	: l/min × mg/l × 0,000490
+ Power retained from fibre savings above	: kWh × t/yr × cost
+ Reduced costs from waste water treatment	: l/min × t/yr × cost
+ Transport costs to dump for sludge	: t/yr × cost
+ Tax paid for sludge dumped	: t/yr × cost
++ Chemicals, power, maintenance	: + + +

Example: 4,000 l/min @ 1,000 mg/l = 1,960 t/yr × USD 150/t =

**USD 294.000 FIBRE SAVED**

PLUS – Savings in power, energy, heat, chemicals, transport and tax.

### This is a bottom line profit!

In addition to this you get a very good clarity filtrate for safe re-use!

This is what you can achieve with an established, reliable good quality product.

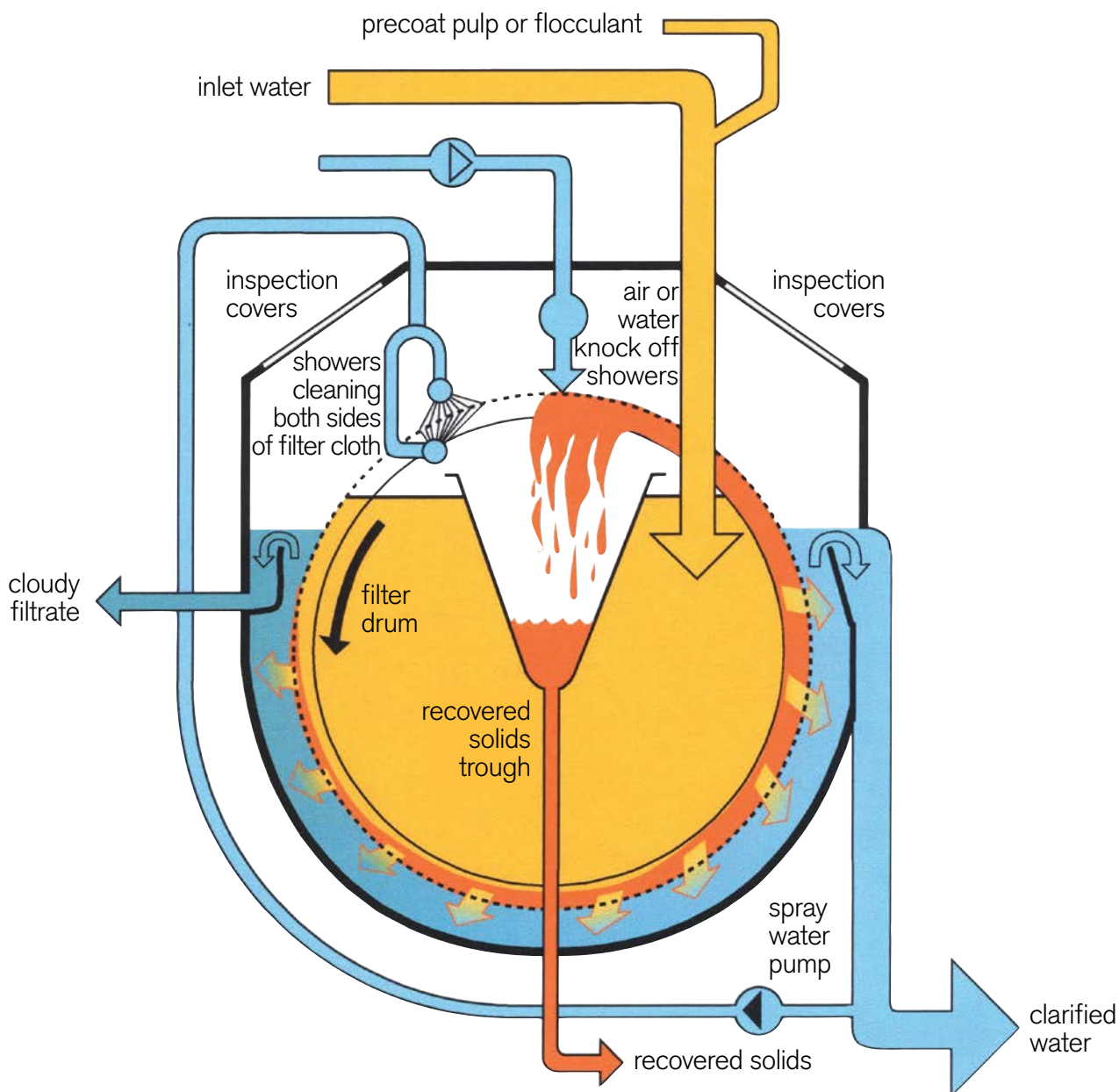
We will show you how. From these savings it must be profitable to buy the best.

## THE ALGAS MICROFILTER OPERATING PRINCIPLE

The Algas Microfilter is designed to operate as an independent and continuous cleaning process. The water to be cleaned enters the inlet box at one end of the filter and passes into the open end of the corrugated drum. Easily changeable filter segments mounted on the drum can be fitted with filter cloths in a range of mesh sizes down to 10 micron, depending on the application. Inside the slowly rotating drum the suspended solids build up a mat on the filter cloth, further improving the filtration efficiency of the medium.

On reaching the top of the drum the deposits are released by air or water sprays, into the internal recovery trough. This is followed by self-cleaning showers to clean the cloths prior to the next filtering cycle.

Algas Microfilters can be supplied with an Auto Control system to provide optimal performance, or controlled by the mill DCS system



# IN THE PROCESS

## FIBRE RECOVERY

Algas Microfilters have saved millions of tonnes of fibre over the years and continue saving more.

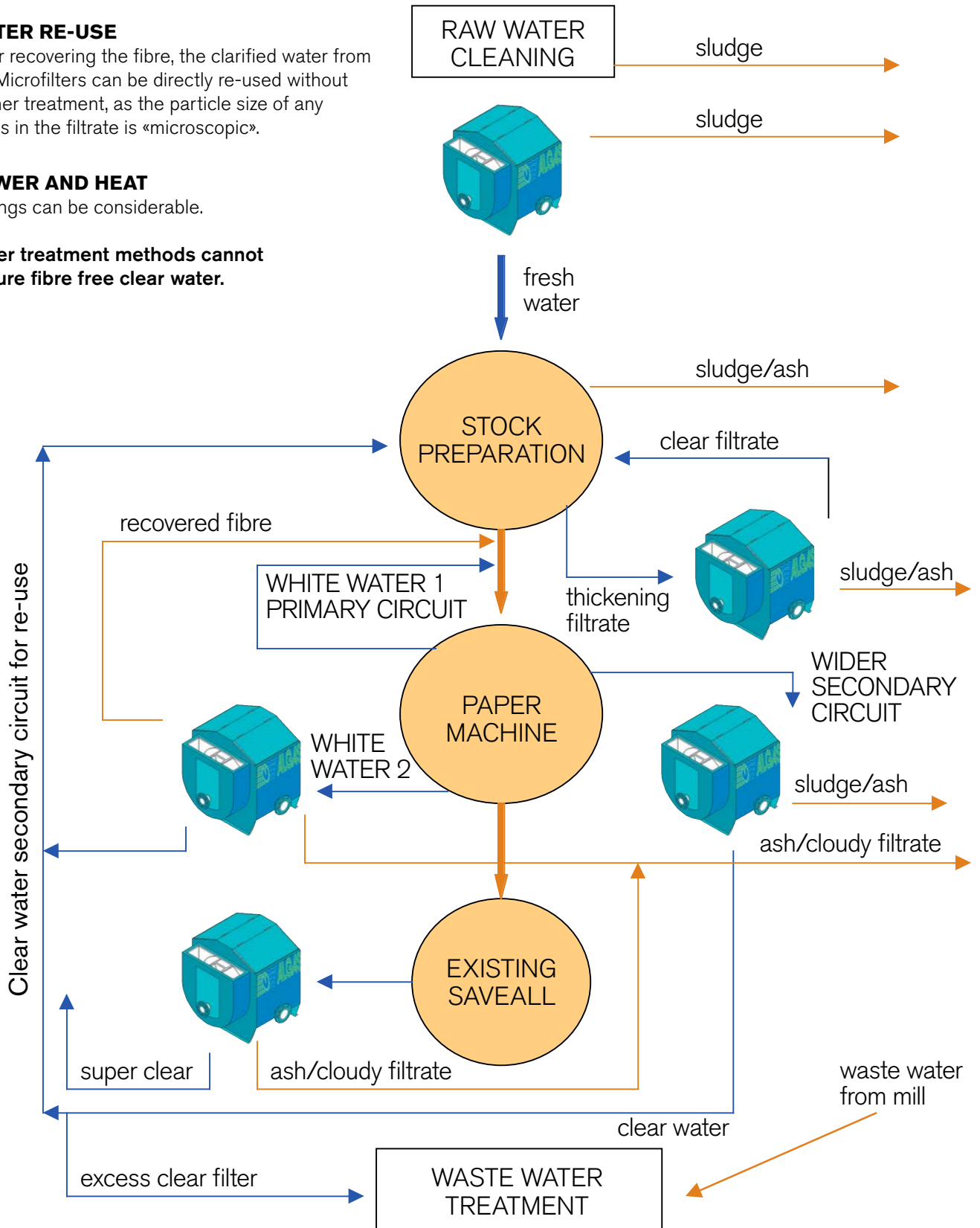
## WATER RE-USE

After recovering the fibre, the clarified water from our Microfilters can be directly re-used without further treatment, as the particle size of any solids in the filtrate is «microscopic».

## POWER AND HEAT

Savings can be considerable.

**Other treatment methods cannot ensure fibre free clear water.**



# THE WASTE WATER TREATMENT

## “5% OF THE SPACE – 100% EFFECTIVE”

Considered impossible earlier, primary effluent treatment using only Algas Microfilters is now firmly established. Using only minutes in treatment time, there is no chance of further fibre degradation. This means, when appropriate, fibre and water can be returned to the process for re-use.

We can separate the good fibre for re-use from unwanted fines and fillers. In addition the controlled low level of solids passing to the following bio-treatment plant will enable the plant to operate at best efficiency.

## Using Algas Microfilter with biological treatment

### 1. PRIMARY TREATMENT

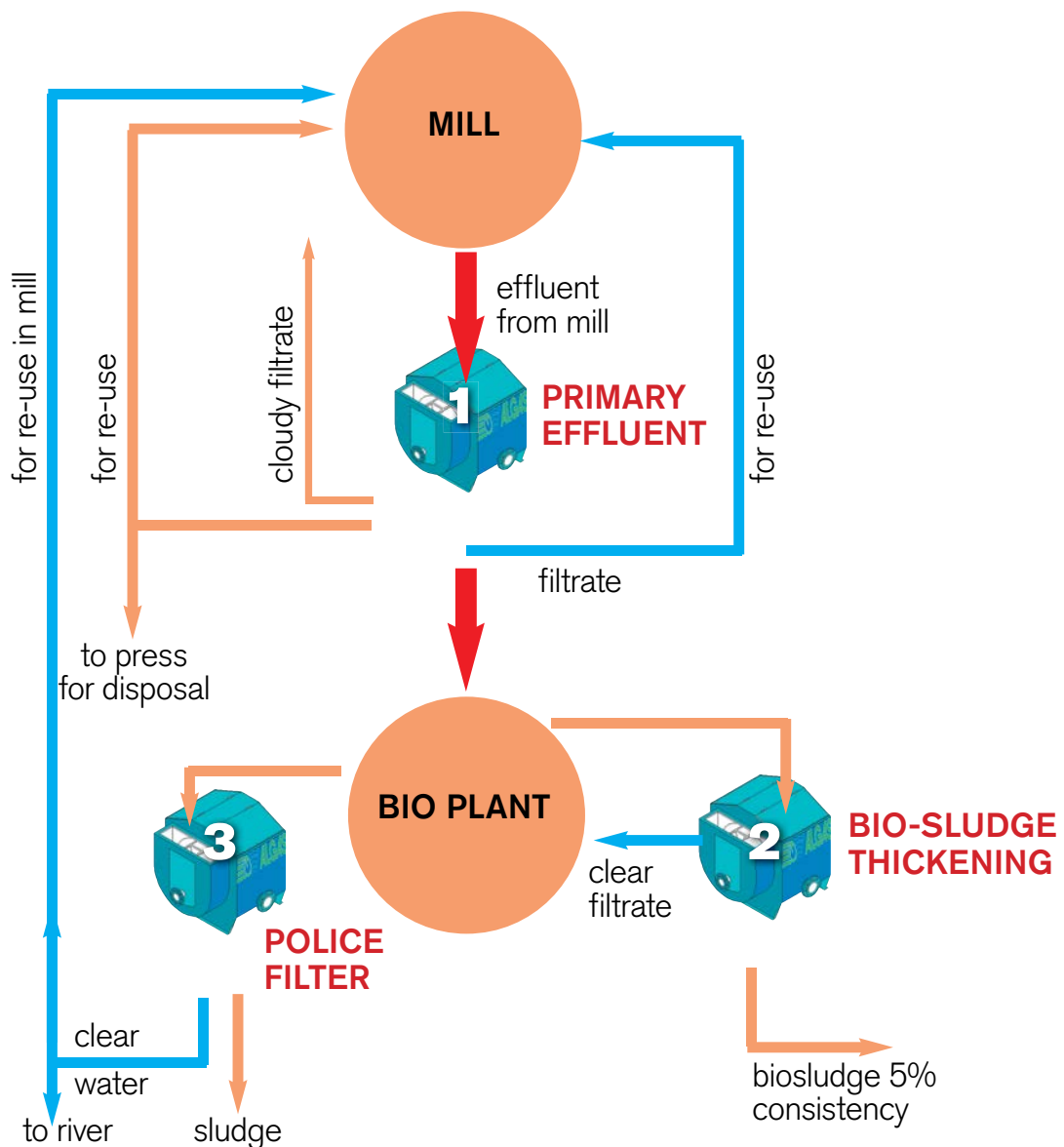
with Algas Microfilter means water to bio plant will have low solids of minimal particle size, allowing the following bio plant to operate at best efficiency also reducing the quantity of bio sludge.

### 2. PRE-THICKENING

of bio-sludge up to 10–12% using Algas Microfilter, helps the efficiency of the following main thickening plant and reduces chemical usage.

### 3. POLISHING AFTER BIO

sedimentation with Algas Microfilters ensures best water quality for either re-use back in the mill and/or safe final discharge.



# COMPARE ADVANTAGES

## ALGAS OFFERS A NUMBER OF ADVANTAGES OVER TRADITIONAL WATER TREATMENT SYSTEMS:

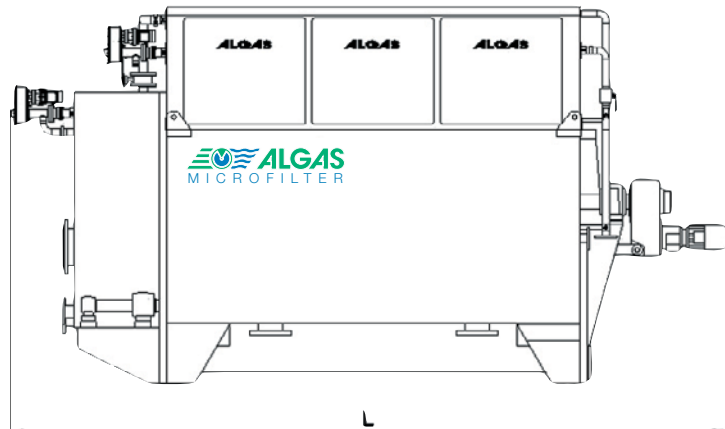
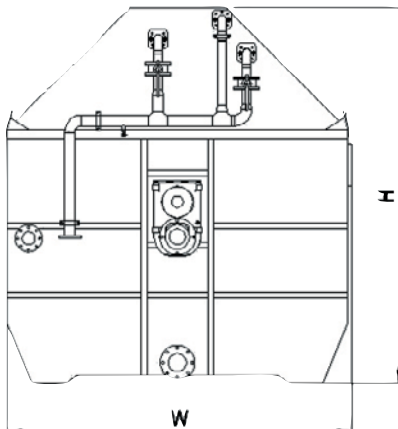
- More clear filtrate available for safe re-use
- High fibre recovery efficiency
- Fast, easy and low maintenance
- Self cleaning
- Simple automatic operation
- Easy installation
- No drop leg required
- Small space requirement
- Flexible concept
- Fast payback time



Easy replacement of segments for cloth changing.



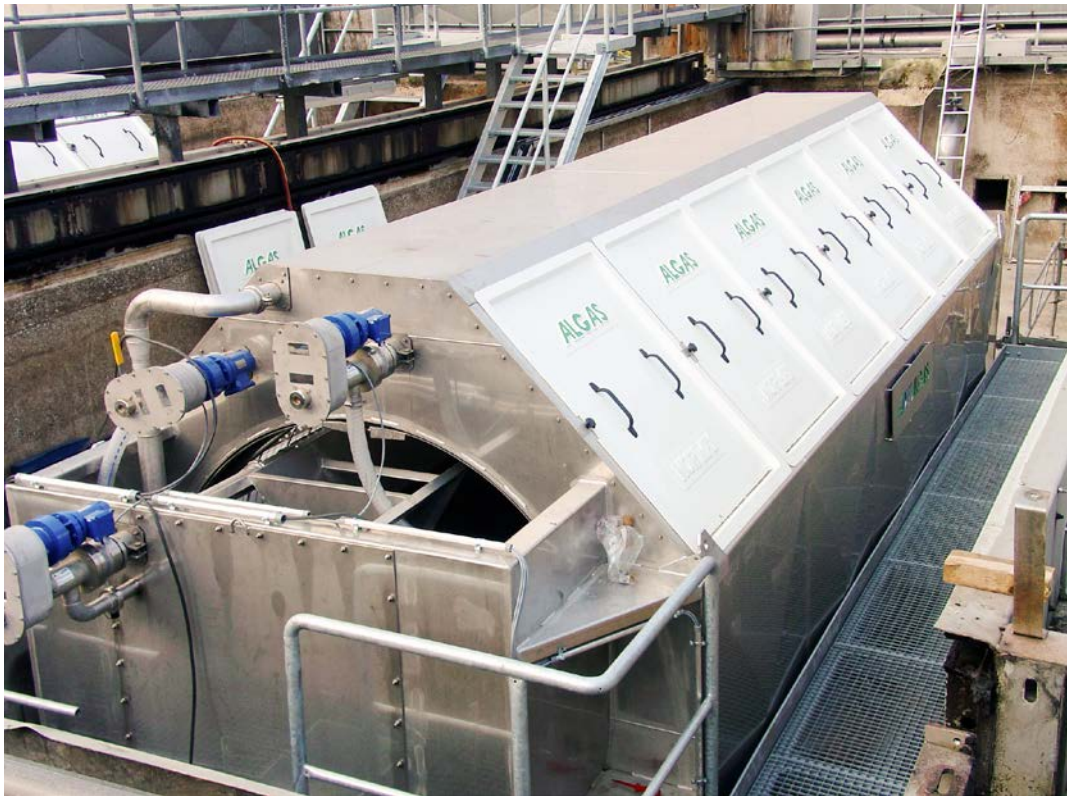
Testfilters are available. See for yourself.



### FILTER DIMENSIONS

Model	Lenght	Width	Height	Model	Lenght	Width	Height
AMF 4	2000	1600	1500	AMF 70 W/SF	6900	2800	3100
AMF 8	2700	1600	1500	AMF 75 HP	5800	2800	3100
AMF 12	3500	1600	1500	AMF 85 W/SF	8700	2800	3100
AMF15 W/SF	3800	2800	3100	AMF 100 W/SF	9900	2800	3100
AMF 25 HP	3800	2800	3100	AMF 105 HP	6900	2800	3100
AMF 30 W/SF	4800	2800	3100	AMF 125 HP	8700	2800	3100
AMF 45 HP	4800	2800	3100	AMF 155 HP	9900	2800	3100
AMF 50 W/SF	5800	2800	3100	AMF 180 HP	10900	2800	3100

**NOTE:** The capacity of the Algas Microfilter is dependent on several process parameters such as type of production, type of water to be treated, flow, fibre content, fillers and other materials, pH-values, temperature and required cleaning effect. We have that experience.



The Algas Microfilter is a trade mark of Algas A/S and has patents pending

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