



Cellwood Machinery

ALGAS Microfilters



Cellwood

..... Recycling solutions for paper and organic waste.

The best way to treat your process water

The ALGAS microfilter is a drum filter that can be used for the treatment of paper mill process water. The filter is designed to

remove existing solids out of the water and can be applied in different positions inside the paper mill.

Fiber recovery, water re-use and effluent treatment are always important issues that need to be treated in the right way. The

most interest is to create an environmentally friendly and economical process. The Algas Microfilter is supporting that development and can be used for any of the mentioned areas.



Environmentally friendly and economical benefits

Efficient water treatment comes with many benefits – both financial and environmental. Here are a few common examples:

- ♻️ Water savings - efficient re-use of process water.
- ♻️ Raw material savings - filtration saves good fiber for re-use.
- ♻️ Energy savings - re-use of warm clarified water instead of heating new fresh water.
- ♻️ Working without vacuum
- ♻️ Less or no chemical consumption
- ♻️ Less maintenance and long lifetime

A simple solution that adapts to your conditions

We have been supplying filters worldwide for over 30 years with hundreds of installations in the pulp and paper industry.

ALGAS microfilters are available in many different sizes and the individual capacity depends on several process parameters such as raw material, water type, flow, fiber content and so on. We have a long experience of dimensioning the filters for each unique application and we select the optimal solution based on operating data from similar installations.



Algas microfilters are used for water treatment in many different applications, including:

- ⌘ Raw water treatment
- ⌘ Fiber recovery from white water 2
- ⌘ Cleaning water from existing save-alls and improve it to super clear filtrate
- ⌘ Use as a police filter after bio plant
- ⌘ Special treatments for black liquor or coating colors

Soft Filtering without vacuum

The ALGAS microfilter is a drum filter that works without using any vacuum. The filtering is done from the inside to the outside, allowing to have the recovery trough inside the drum. This enables, together with a slow drum rotation, a longer filtration time and a better efficiency.

The needed pressure is created by the level difference from the inside to the outside. By not using vacuum, no particles are pushed through the filter cloths. This gives a high-quality clear filtrate for a safe reuse in the mill. The continuous cleaning of the filter cloth is done by three shower pipes that are using the own created clear filtrate. This keeps the efficiency high without adding any fresh water.

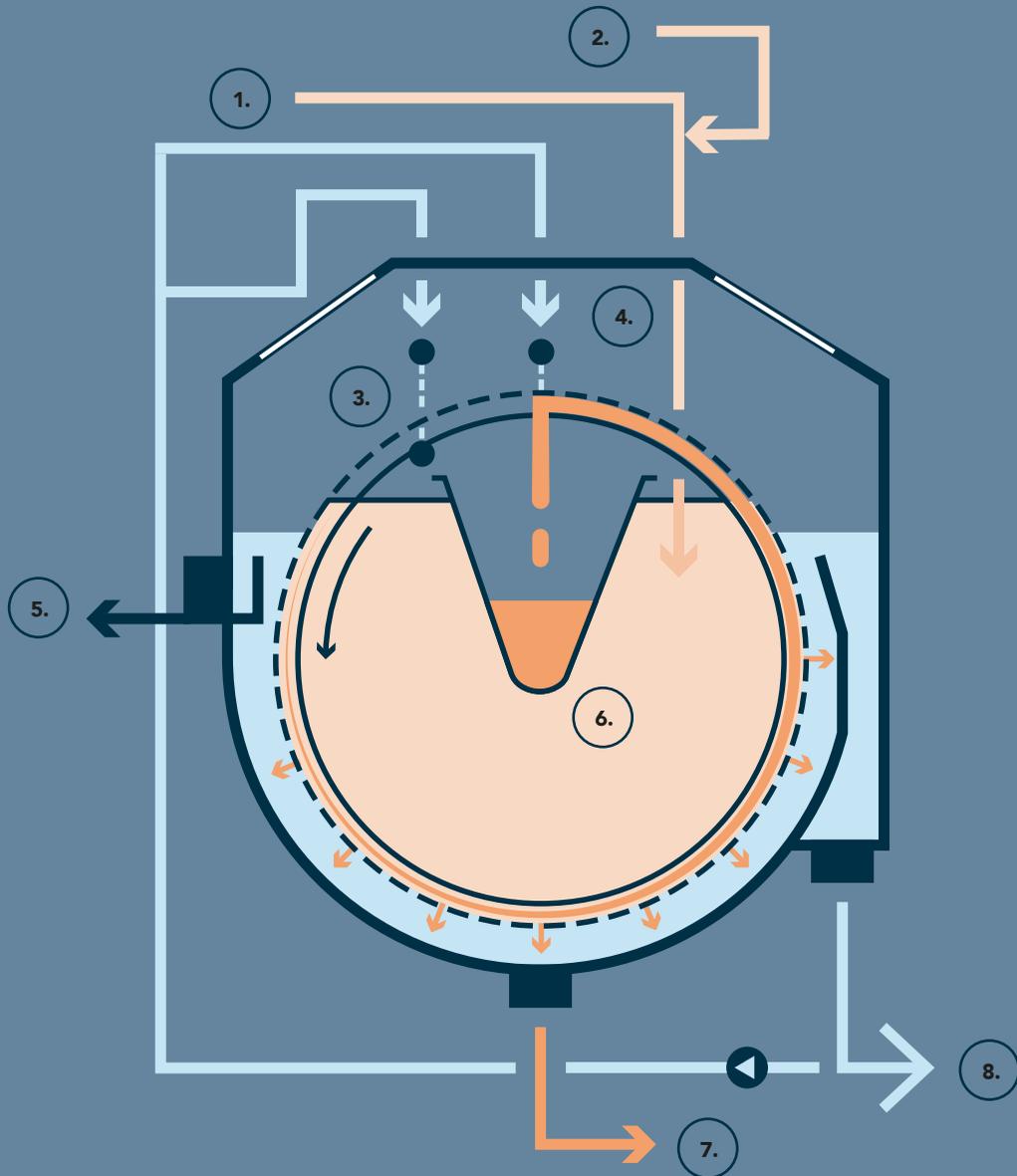
The different filter cloth mesh sizes from 10 – 1000 micron allow a wide range of applications.

To reach the optimal performance of the ALGAS filter, it can be equipped with an Auto control system or be connected to the mill DCS system.



1. Inlet water
2. Additional sweetener or flocculant
3. Showers cleaning both sides of the filter cloth
4. Air or water knock off shower
5. Cloudy filtrate (as possibility)
6. Trough
7. Recovered solids
8. Clear filtrate

TWO SHOWERS ARE CLEANING THE FILTER SEGMENTS CONTINUOUSLY FROM EACH SIDE AND THUS ENABLE A RELIABLE FILTRATION WITHOUT PLUGGING THE FILTER MEDIUM.



How ALGAS Microfilter can be used in different position inside the paper mill

Raw water

The aim is the reduction of solids in the water coming from a river or a lake to provide a clear water ready to use in the mill.

2. Stock Prep

The filter is used to thicken the filtrate coming from a screw press or belt press to recover the fibers and fines and get a good filtrate quality for reuse of the water.

3. White water

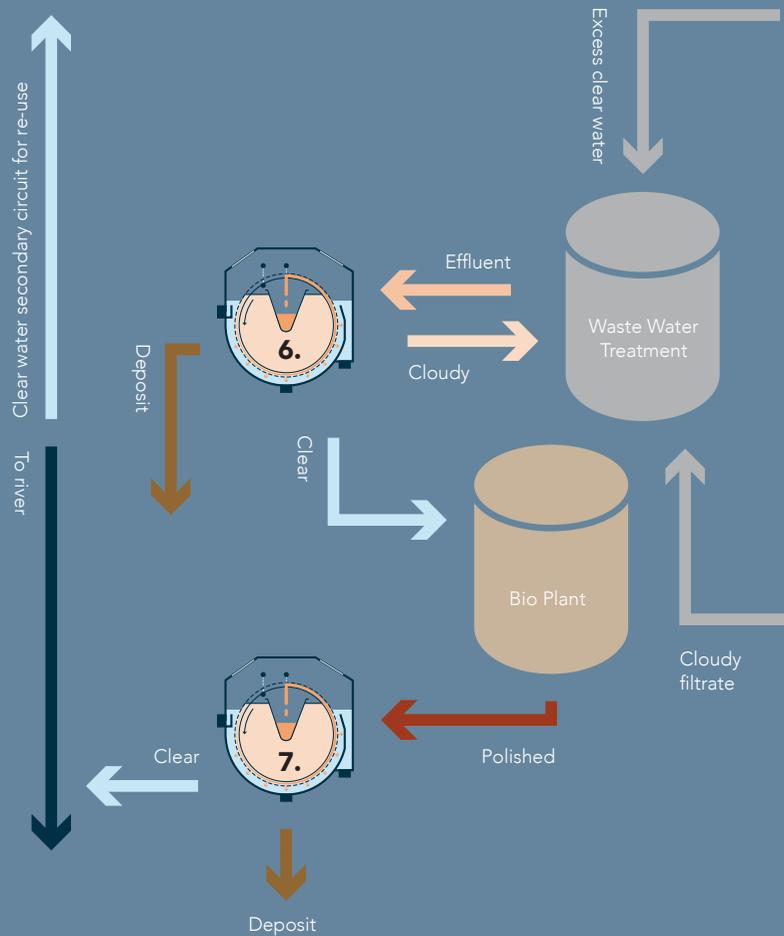
The aim is to recover fibers together with fines to send them back to production and additionally provide a super clear filtrate for reuse on e.g. high pressure showers.

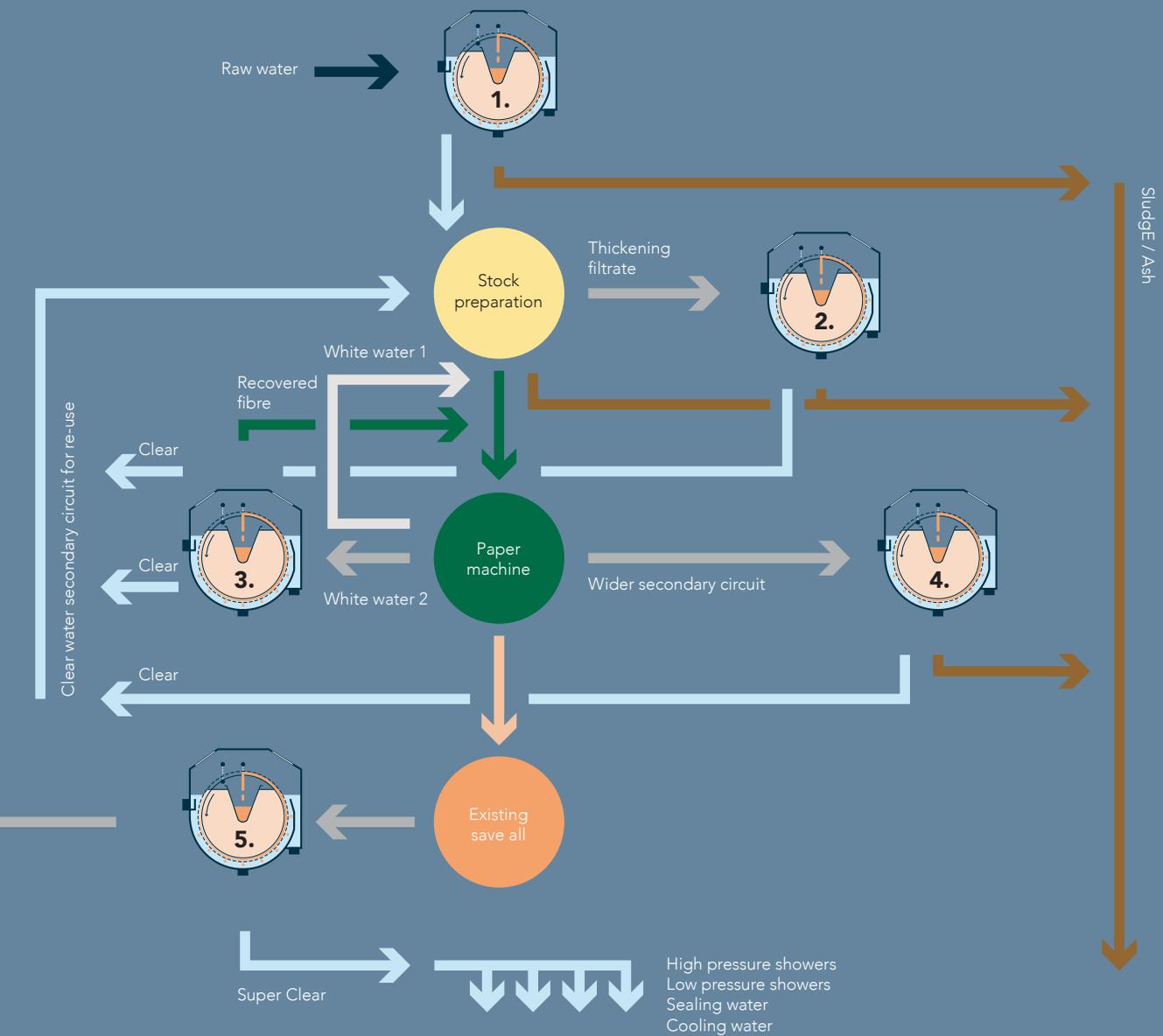
4. Secondary circuit

The filter is Polishing water coming from equipment like a DAF or a disc filter to get a super clear filtrate for reuse on the machine.

Special application

Filter can be used for special treatments like recovering coating color pigments from process water or separating solids from black/ green liquor.





5. Existing save-all

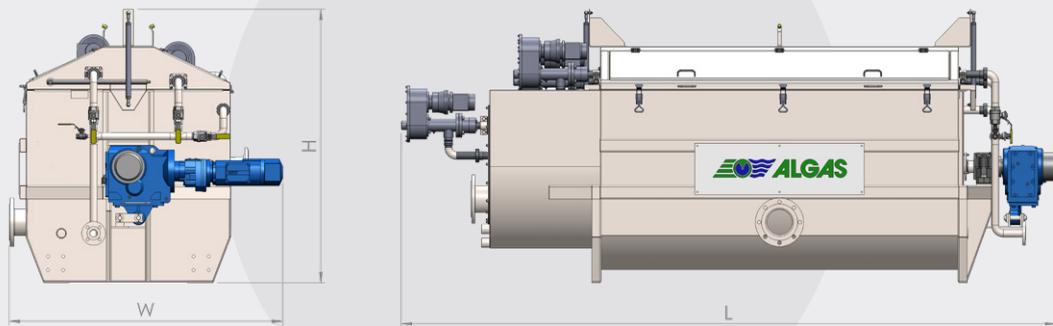
The aim is to recover and thicken solids and send the reject to the bio plant whereas the water is cleaned to a good quality and can be reused in production again.

6. Pre thickening

Algas microfilters pre-thicken the bio-sludge with up to 5–8%, which in turn helps improve the efficiency of the main thickening plant and also reduces the use of chemicals.

7. Polishing after bio

Polishing with Algas microfilters ensures the best possible water quality, either for re-use in the mill or for safe final discharge.



Filter sizing

Due to our different segment profiles and different type of filter cloths we are able to design the optimal filter size for your process.

Segment Profiles

MD - Smallest unit for low flow rates

SF - superfine profile for better clear filtrate quality but less throughput

HP - high profile for more throughput but less clear filtrate quality

Filter cloth with different mesh size

for MD profile: 10–1000 Micron available

for SF profile: 10– 80 Micron available

for HP profile: 30, 100–1000 Micron available

Filter Dimensions

Filter with MD profile

LxWxH

from 2400x1420x1500mm

to 3900x1420x1500mm

Filter with SF or HP profile

LxWxH

from 3800x2800x3100mm

to 10900x2800x3100mm

A profitable investment

Investing in Algas microfilters can improve your economy in several ways, due to:

- ⌘ Retained power from fibre savings
- ⌘ Reduced costs for wastewater treatment
- ⌘ Reduced transport costs for sludge disposal
- ⌘ Reduced tax costs for sludge disposal
- ⌘ Reduced use of chemicals and power
- ⌘ Reduced maintenance costs

In addition, you can also save resources thanks to super clear filtrate that is safe to re-use.

Do you want to learn more about the benefits of Algas microfilters and how our products can make a difference for your business? Please contact your local Cellwood representative – we will help you out.

Compare advantages

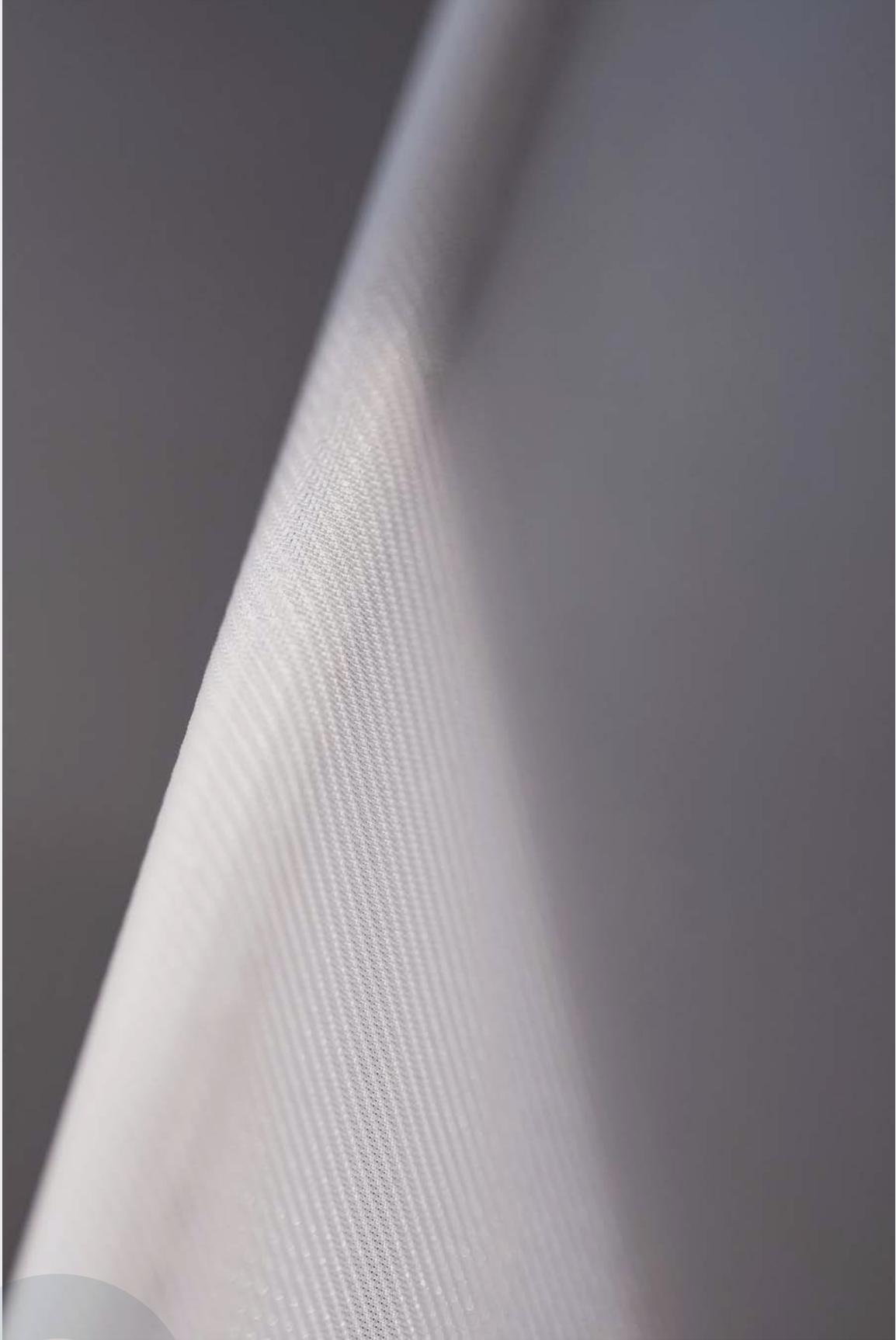
Algas offers a number of advantages over Traditional water treatment systems:

- ⌘ Only one filtrate quality with low solid content for safe re-use
- ⌘ High fibre recovery efficiency
- ⌘ Fast, easy and low maintenance
- ⌘ Self cleaning
- ⌘ Simple automatic operation
- ⌘ Easy installation
- ⌘ No vacuum required
- ⌘ Small space requirement
- ⌘ Flexible concept
- ⌘ Fast payback time
- ⌘ Easy changeable filter segments



Easy replacement of segments for cloth changing.

Testfilters are available. See for yourself.



Test filter

To have the ability to test the ALGAS microfilter in your mill on your own water we can provide a test unit. It is not only a pilot unit but also the smallest production size so the results are totally reliable and transmittable to the needed full-sized filter.

The test filter is easy to install and operate. The needed connections are pipes or hoses for inlet, outlet and reject, in some cases also for polymer and a heavy current power supply for the motor and the pump.

A successful trial is preferably done by one of our start-up engineers. As the installation is easy, the filter can be tested at different positions in the mill on different applications.



Recycling solutions for paper and organic waste.

Enhancing recycling

We make the most of nature

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