



REFINING  
and DEFLAKING





For 40 years  
developing state of the art  
technology and generating  
solutions for the paper industry

## Who we are

In Rio do Sul, State of Santa Catarina, is located our Headquarter where for 40 years we are developing state of art technology for the paper industry. Our lines include paper machines for different grades as tissue, fine and board production and stock preparation equipment as well.

With a highly-specialized technical staff, we have reached excellence in high-performance products, in compliance with strict quality standards acknowledged worldwide. This consolidated position results from the adoption of an advanced management process, from conscious investments for project development and from result-oriented planning.

At this moment, we are inaugurating one new cylinders manufacturing line for paper machines with capacity to produce Yankee Cylinders with diameters up to 7320 mm (24 ft) and face length up to 6500 mm. This manufacturing site counts on modern machines and a unique infrastructure which allow complete equipment construction from plate calandering to the final process of metallization and grinding.

In addition to product development, Hergen has the expertise to offer a full range of services from pre-engineering to the mill site services during machine shutdown periods. Aiming at fulfilling requirements expressed in the international safety regulations, we invest in modern tools for quality and process control.

Every step forward in our vision of the future increases our competitiveness and market presence, consolidating us as an important player in this worldwide sector.

Hergen, solutions for the paper industry.

# REFINING and DEFLAKING

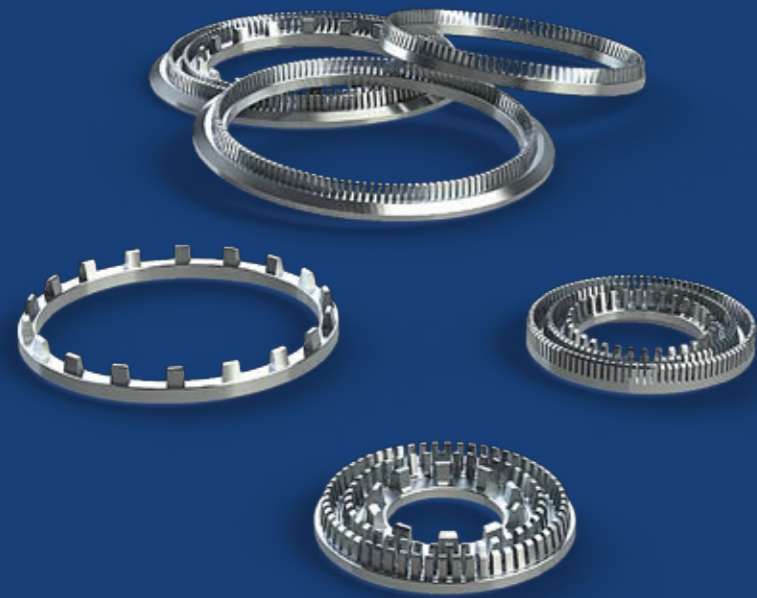


# DEFLAKING

The number of Hergen deflaking units throughout the world are the prove of their high quality and efficiency. They are applied at stock preparation systems in order to homogenize the stock and remove fiber flakes

They are available in two different sizer, HD 1 and HD 2, which feature 50 and 100 ton/day respectively. These are equipment with stiff and simple construction, which guarantee a friendly operation and an easy maintenance

Hergen manufactures deflaking plates that suit any brand and model, that features a wide range of plate configurations. These plates are built with high quality materials that allow an excellent performance throughout their whole life spam





# Deflakers HD Series



## HD-1

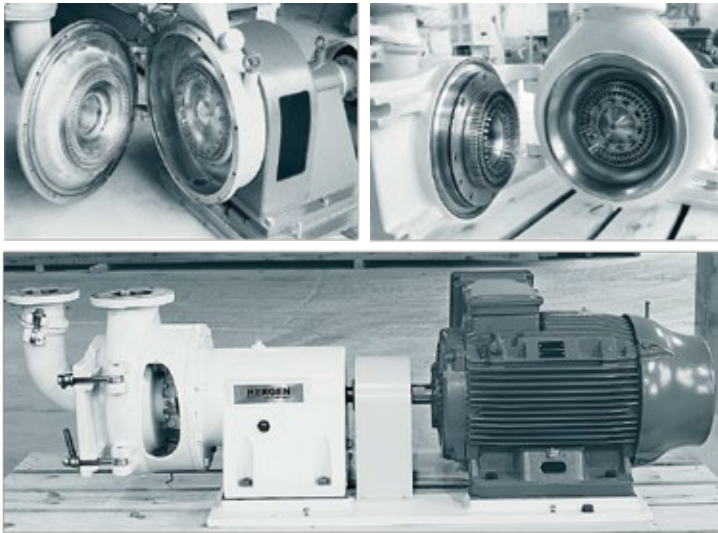
Maximum throughput (ton/day)	50
Maximum working consistency (%)	3 - 5
Power rating (kW)	55
Speed (rpm)	3600
Number of Deflaking plates	2



## HD-2

Maximum throughput (ton/day)	100
Maximum working consistency (%)	3 - 5
Power rating (kW)	110
Speed (rpm)	1800
Number of Deflaking plates	2





### Application

They are applied at stock preparation systems in order to homogenize the stock and remove fiber flakes

### Energy savings

Due to its non-pressurized operation, the stock flows freely which results on low power consumption

### Design

Stock chamber in Stainless Steel and bearing housings in nodular Cast Iron the features high wear resistance

High capacity bearing housings with oil bath lubrication



## Deflaking Plates

The Deflaking Plates are built in Stainless Steel and feature different passage areas, that guarantee the proper deflaking effect with minimum freeness variation

Plates for Deflakers and pre-Refiners of different sizes and brands offered in the market, with delivery times and quality control to fulfill the requirements of each application

# REFINING

Throughout our 40 years of history, we have established ourselves in the Brazilian and overseas market as one of the main suppliers of products and services related to stock refining for the paper industry

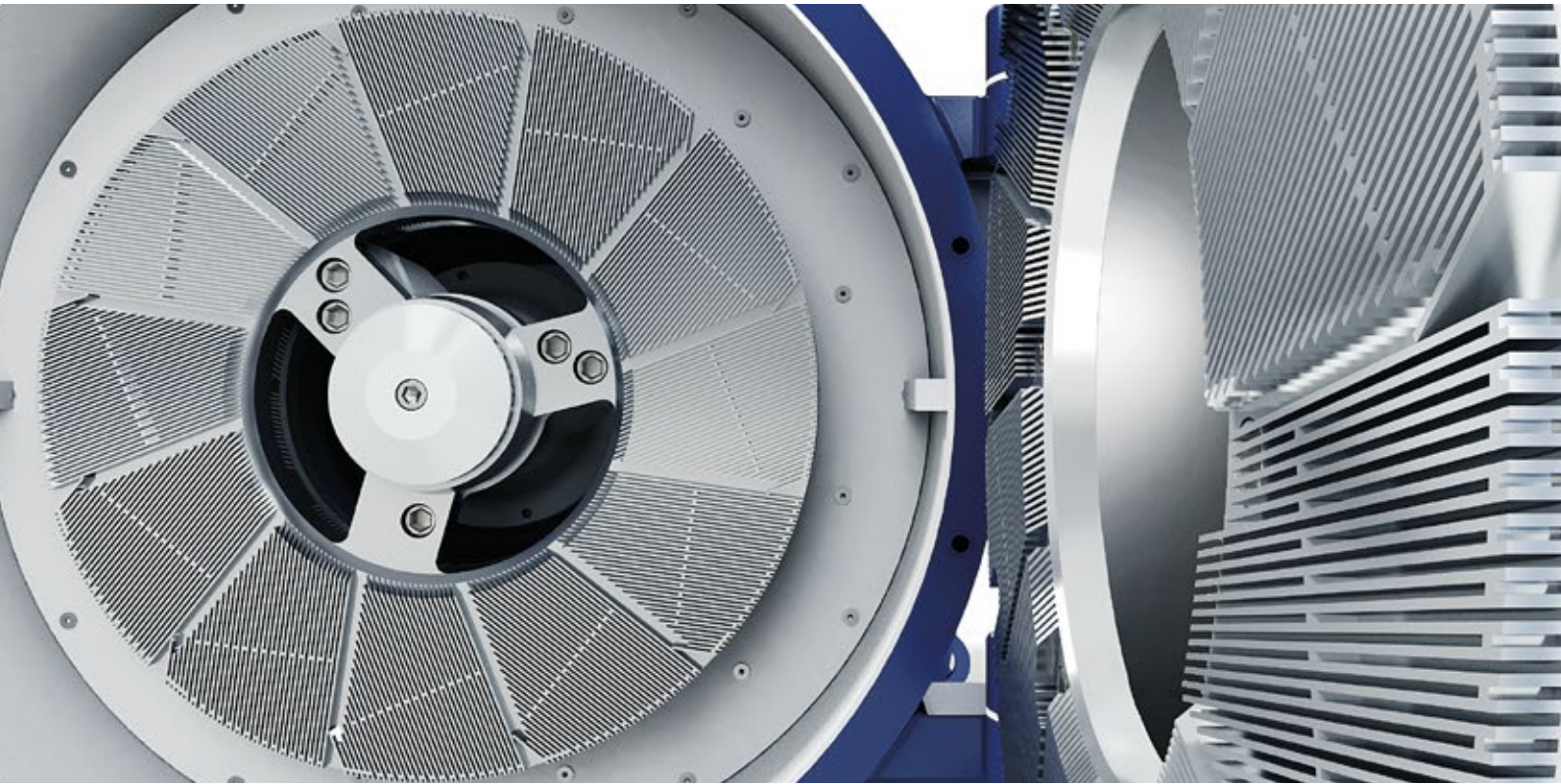
Besides the traditional DD series, with models with refining plates ranging from 17" and 29", we have developed the new EcoFiber HRT Refiner that can work with refining plates from 34" to 40"

With our exclusive production process, we have achieved the excellence in welded refining plates manufacturing which are designed and built to suit any refiner brand, size or model with any refining pattern configuration

Our highly skilled field team offers "Refining Process Optimization" that targets to find along with our customers the solutions for the most variables refining needs, always focusing on the best results possible

The paper making process requires special attention to stock refining. We present below all we can offer for this important step of paper production





# Refining Plates

## Quality

Our Refining Plates feature an exclusive welding process, which enables high flexibility to create a wide range of refining areas

We can supply our Refining Plates as one-piece, split or segmented

## Materials

Our Refining Plates can be manufactured in cold rolled Stainless Steel or in hardened Carbon Steel, which are materials with high wear resistance and keep the slitting geometry throughout the whole plate lifespan

## Customization

We develop solutions along with our customers, through field survey that help us creating new refining areas customized for the most variable applications and needs







# Low Intensity Refining Plates

## Technology

With a new blade configuration, these Refining Plates feature a significantly improvement of Refiner performance

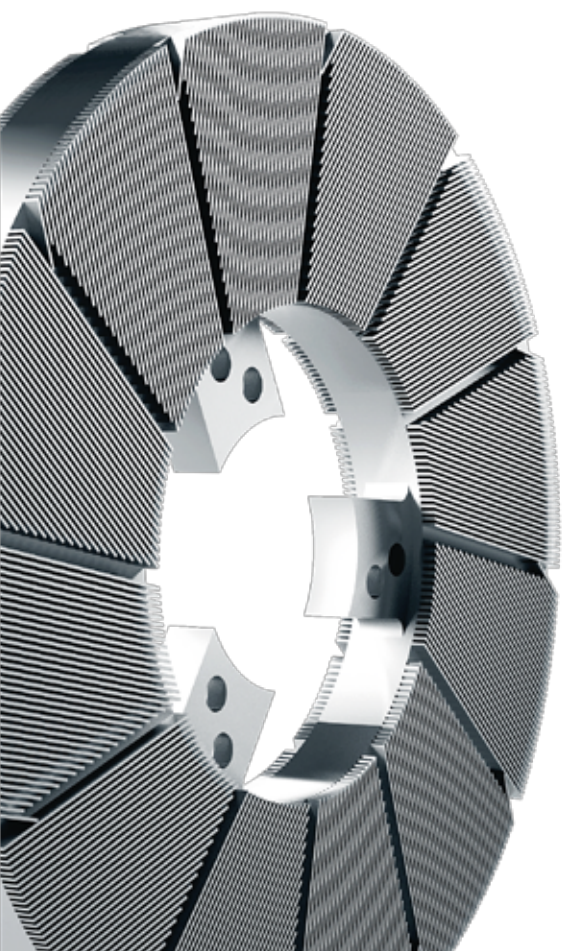
## Benefits

Increased paper smoothness

Higher bulk

Less energy consumption

Increased wet paper strength, resulting in better runnability





# DD Series Refiner



## Application

These are equipment designed for a working consistency up to 6% and can be installed in both, stock preparation and approach flow systems

## Quality

Our stock refiners are well known for their high quality and efficiency

Due to its stiff construction, a very long lifespan can be expected

Low operational cost

	DD-20"	DD-26"
Maximum throughput (ton/day)	50	100
Maximum working consistency (%)	6	6
Power rating (kW)	110 - 220	185 - 370
Refining plates diameter (inch)	18 - 20 - 22	24 - 26 - 29

## Spline Shaft System

With Splined Shaft System, you may have the latest technology in your Refiner. With this system, at a very low cost your Refiner will save electrical energy and reduce your investment in spare parts. Contact us for more information about this system and get your Refiner upgraded

### Benefits

Eliminate the axial movement of main shaft

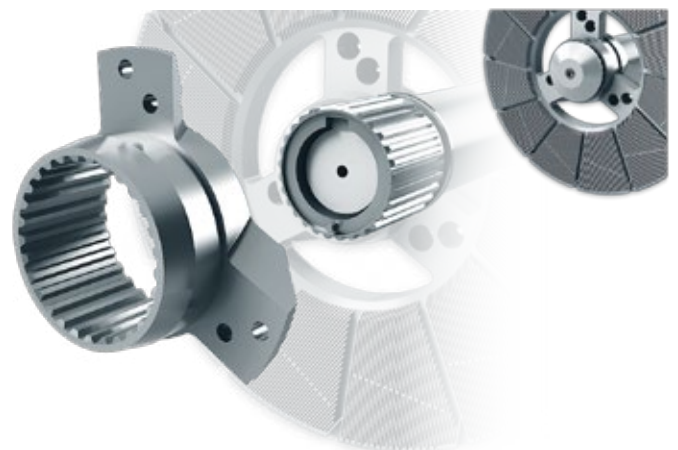
No sliding coupling needed

Remove all main shaft movement devices

Reduce the main shaft wearing

Improve the gaskets sealing avoiding stock leakage

Increase refining plates lifespan



## Refining Management

Control of the electrical energy applied to stock refining, via a PLC dedicated for this application

The system also enables the real time indication of bearing housing temperature, sealing water and stockinlet/outlet pressure



Control panel display

## Safety

Our equipment features electronic and mechanical protection system that targets the operator safety



## Spare Parts and Rebuilds

We provide maintenance and rebuild services for stock refiners of any brand or model, with the possibility of including improvements to the original Refiner's design



## Refining Optimization

Our field team surveys the process and the refiner installation, besides that it evaluates the equipment conditions

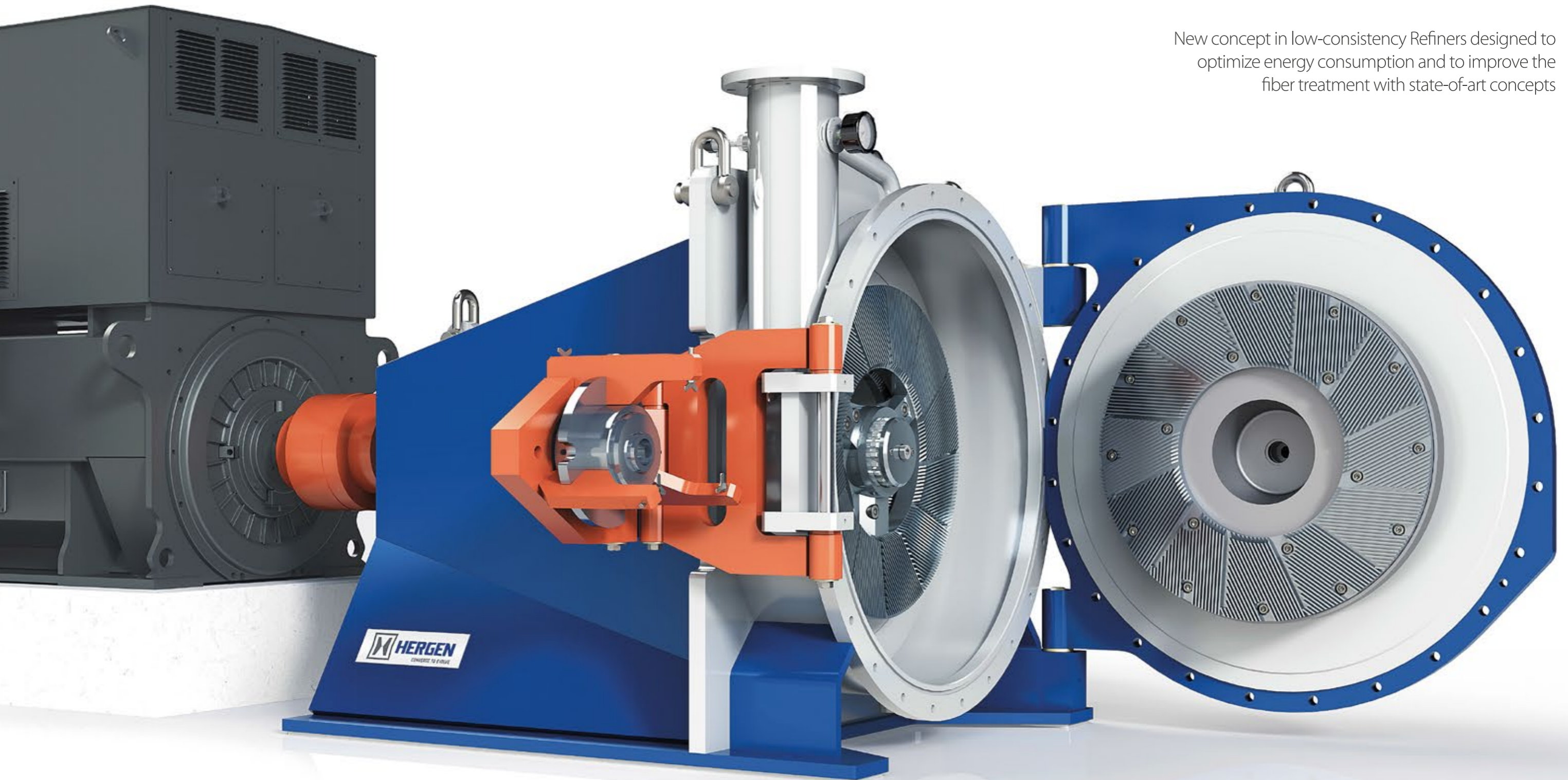
Based on all information collected, we offer guiding for improvements in the process that targets the energy and water consumption and eventually the improvement of fiber treatment

It can be done in installations with Hergen's refiners, as well as in facilities with other brand refiners



# EcoFiber HRT Refiner

New concept in low-consistency Refiners designed to optimize energy consumption and to improve the fiber treatment with state-of-art concepts



# EcoFiber HRT Refiner

Refining Plates diameter (inch)	34 	38 	40 
Average Throughput * (ton/day)	260	350	500
Power Rating (kW)	600	750	900
Speed (rpm)	600	514	514
No Load * (kW)	150	180	200

\* Subject to changes according to the process conditions and Refining Plates configuration



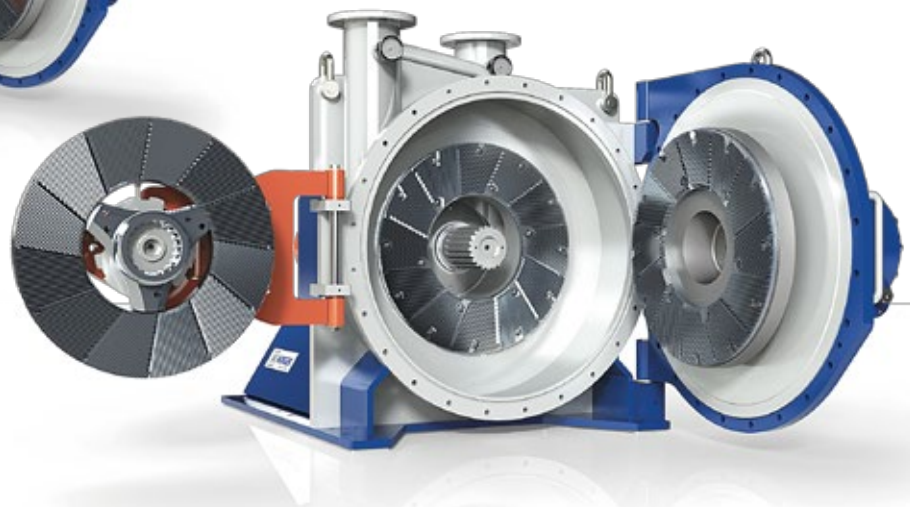
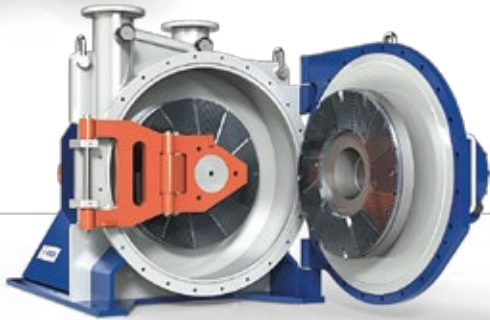


## Refining Plates Quick Change System

It is an integrated system that makes the refining plate change faster and safer

It saves time

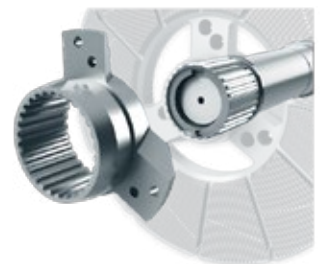
Improved operators' safety



### Low Intensity Refining Plates

Improved fiber treatment with low energy consumption

### Spline Shaft System



### Tangential inlet and outlet



### Easy and low cost maintenance



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