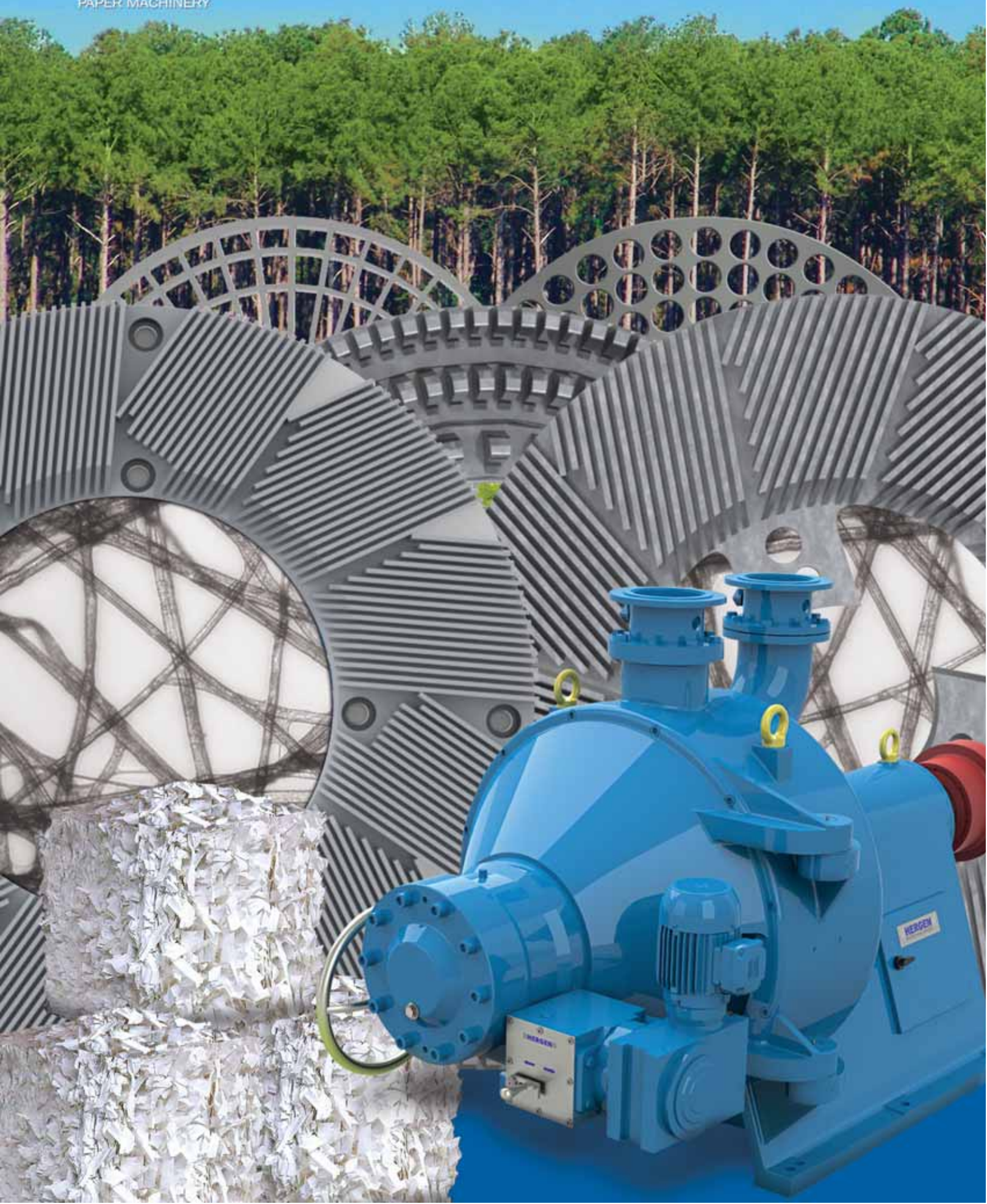
HERGEN
PAPER MACHINERY

# REFINERS AND DEFLAKERS



# Stock Refiners

## General Features

- Great Mechanical Ruggedness with long service lifetime.
- Low operational cost due to the modern mechanical concepts used.
- Operation work safety with eletronic protections in the Refiners control panel.
- Operations assisted by dedicated PLC, handling all the possible process failures with a human-machine interface easy to acess and operate, and assuring safety to operators in compliance with machinery safety standards.
- Excellent refining performance with assisted control for the Refining Power Used, including PLC programmed for such application.
- Refining area and disk configurations customized for each raw material type according to the requirements of each product.
- Complete Technical Assistance, with permanent stock of spare parts required.

*Allfiber DD refiners by Hergen are pieces of equipment designed for Stock refining in Pulp & Paper industries, in low- and medium-range consistency applications.*

| Model | | DD-17" | DD-20" | DD-26" |
|---|---|---|---|---|
| Motor Rating | hp | 50 - 75 | 150 - 300 | 250 - 500 |
| Motor Speed | rpm | 1180 | 890 | 720 |
| Production | t/d | up to 20 | up to 50 | up to 100 |
| Maximum Consistency | % | 6 | 6 | 6 |
| Disk Set | Pc | 3 or 4 | 3 or 4 | 3 or 4 |
| Disk Application Range | Pol | 13 - 17 | 18 - 22 | 24 - 26 |
| Weight (approx.) | kgf | 690 | 1550 | 2400 |

**Deflakers series HD-1 and HD-2** by Hergen are pieces of equipment that provide high efficiency for application in paper mill stock preparatio circuits, aiming at enabling higher stock homogenization and elimination of flakes commonly formed in the process.

The HD-series deflaker disks offer distinctive constructive forms and are made of stainless steel, in segments with different passage area, which enable obsolute stock deflaking, with the lowest Schopper-Riegler (°SR) variation and better stock homogenization effect.

Technical Features

- Equipment with great ruggedness and excellent operational performance.
- Housings made of cast stainless steel and nodular cast iron with high resistence to a brasion.
- Lower power consumption. Due to the non-pressurized operation, the stock has free flow, thus generating low current (amperage) draw.

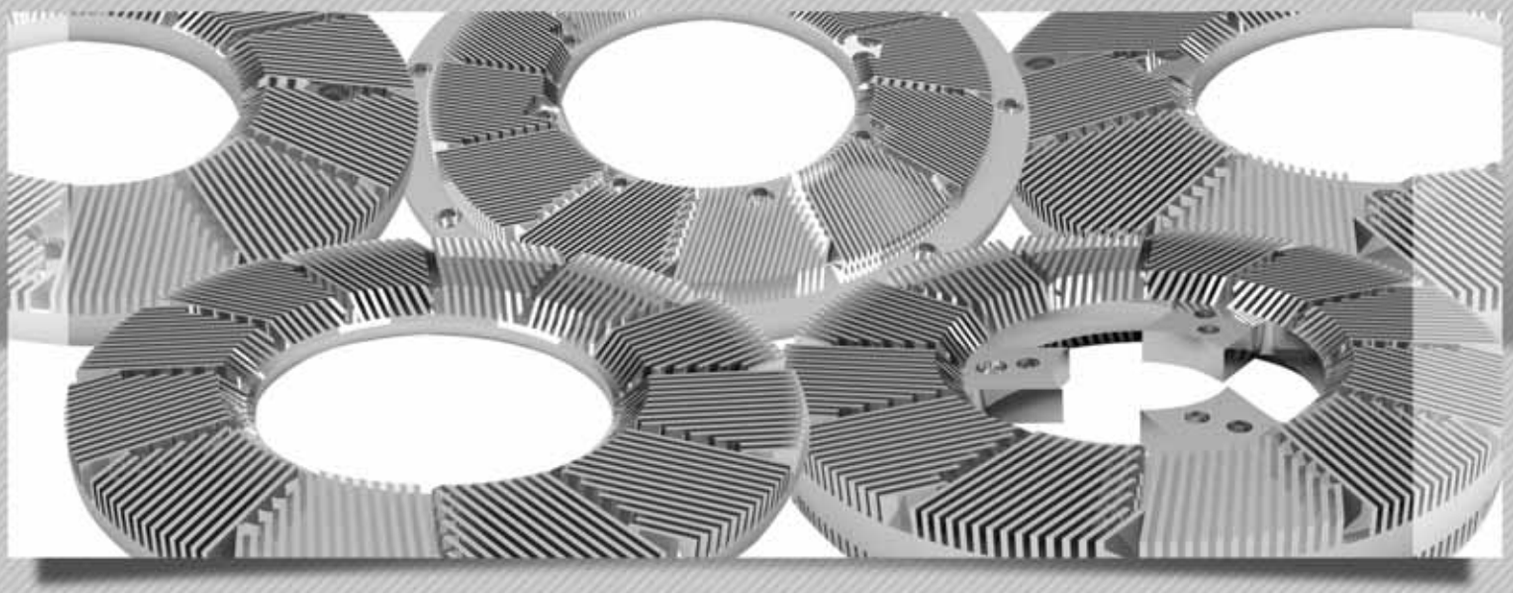
| Model | HD-1 | HD-2 |
|---|---|---|
| Production (ton/day)* | up to 50 | up to 100 |
| Maximum Consistency (%) | 3 - 5 | 3 - 5 |
| Motor Rating (hp) | 75 | 150 |
| Motor Speed (rpm) | 3600 | 1800 |
| Number of Disks | 2 | 2 |

***Depending on items from raw material type to operation consistency.**
****Technical data, dimensions and illustrations subject to changes without prior notice by Hergen Paper Machinery.**

## Refiners' Disk Plates

*Hergen Paper Machinery manufactures, for more than 20 years. Disk Plates for Stock Refiners and Deflakers, aimed at being used in several renowned equipment available in the market, in the most different applications.*

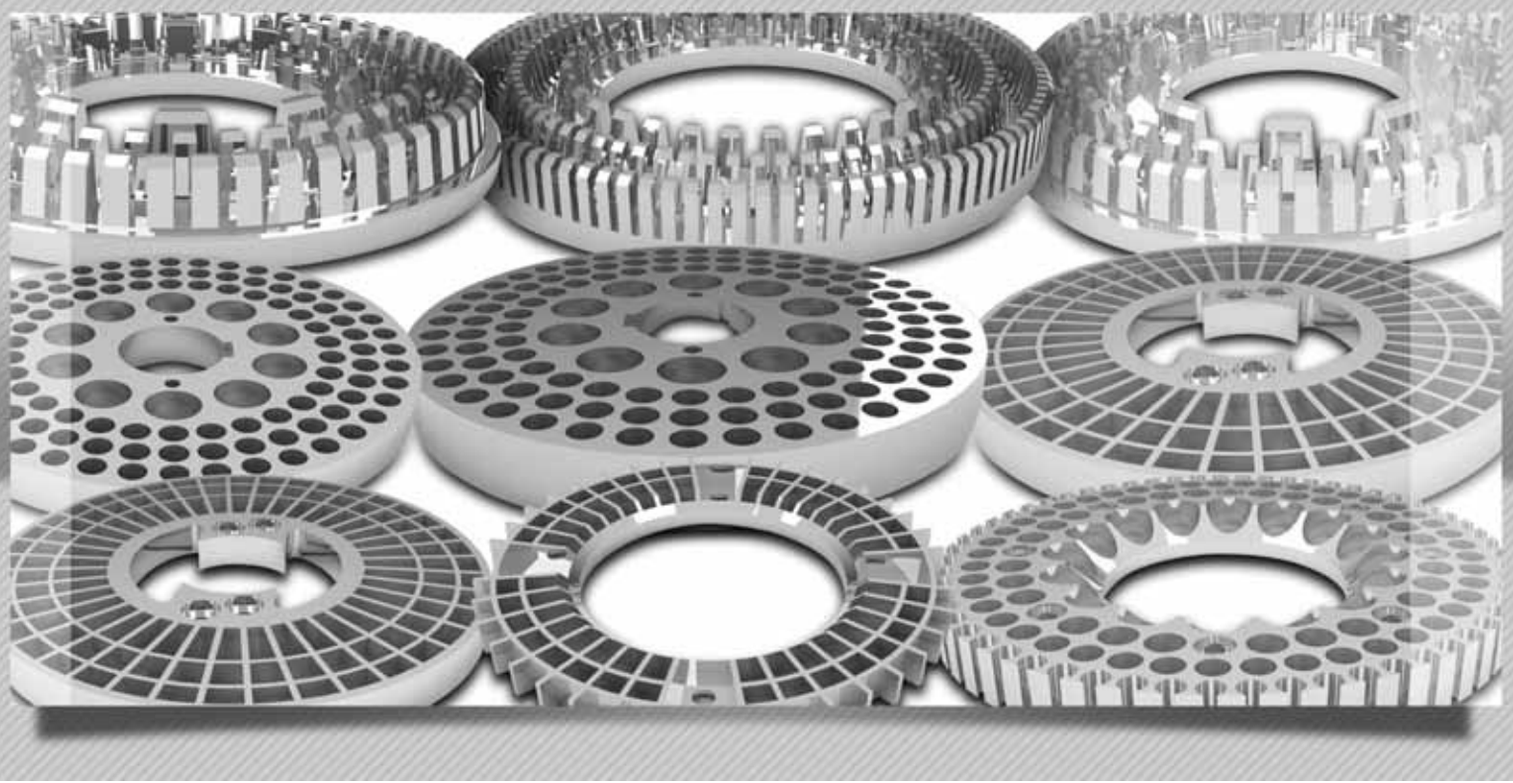
*The Refining Plates are manufactured by using modern welded construction technology of the refining blades, which are cold re-rolled, providing hardness values within the 45-48 HCR range for disks made of stainless steel.*



*The utilization of a unique constructive system enables very uniform refining geometries with minimum dimensional variations, thus assuring continuous refining area and maintenance of the stock refining properties throughout the disk service lifetime.*

## Deflakers' Plates

*The Deflaker Plates increase the efficiency of the whole stock preparation process, as they provide better stock homogenization, by dispersing fiber agglomerates and flakes without changing the refining grade. They provide special design to promote abrupt stock acceleration and deceleration, generating large impacts on the fibers between the impeller disk and fixed disk.*



Stock Feed Nozzle for Hergen's Allfiber Refiners.

Disk Spacing System.

Rotary Set,
Wear Shaft and Bushing.

Toothed Coupling Set.

Replacement of conventional Floating Shaft by a sliding splined rotor and Hub set.

# Refurbishment Services for Stock Refiners and Deflakers

The requirements for finished paper quality are continuously increasing, thus the refining systems are required for meeting this demand with maximum efficacy.
By refurbishing their existing refiners, we restore the original equipment performance by a strict industrial process, where the following items and checked and fixed (among others):

- Flatness and parallelism of disk mounting surfaces.
- Improper wears and clearances on all the sliding surfaces.
- Complete structural inspection – body and main cover, including hydrostatic test and certificate issuance.
- Disk approach and separation disk gap setting system.
- Overhaul of the refiner's shaft coupling.
- Overall automation.
- Overhaul of the lubrication system.
- Floating shaft assembly and its replacement by a sliding splined rotor and hub set.


We work with the following brands:

- Beloit
- Black Clawson
- Sprout Waldon
- Pilão
- Others – Upon Inquiry

The new HREC Plus developed by Hergen Paper Machinery has been designed to be adapted in any low- and medium-range consistency Stock Refiners in the market, enabling:

• Total control of the refining process by keeping constant fiber refining power during the production process.

• Continuous and assisted operation of the stock refiner by providing real time information on:

- Stock inlet / outlet pressure
- Refiner's bearing temperatures
- Drive motor temperature
- Sealing water pressure
- Main drive motor current
- Operating time (hours)
- Refiner's work history (refining hours vs. downtime hours)
- Total service lifetime of the refining disk plates
- Operational interlocks, thus assuring full operation of the refiner in a simple and objective way, with total safety to operators.

WPCOM.COM.BR

HERGEN
PAPER MACHINERY

Rua 7 de Setembro, 251 - Centro - Rio do Sul/SC - Brasil
Fone: 55(47) 3531- 4400 - Fax: 55(47) 3531-4411
www.hergen.com.br