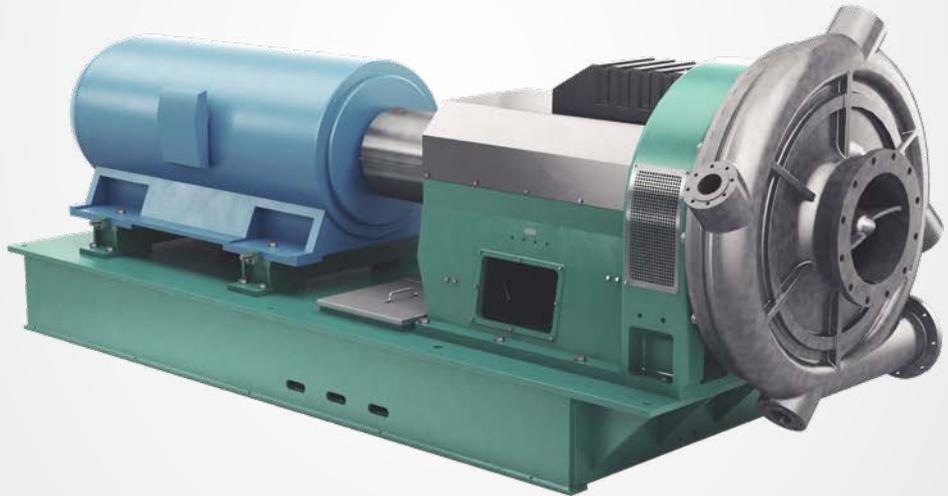




Cellwood Machinery

Krima Dispersing System



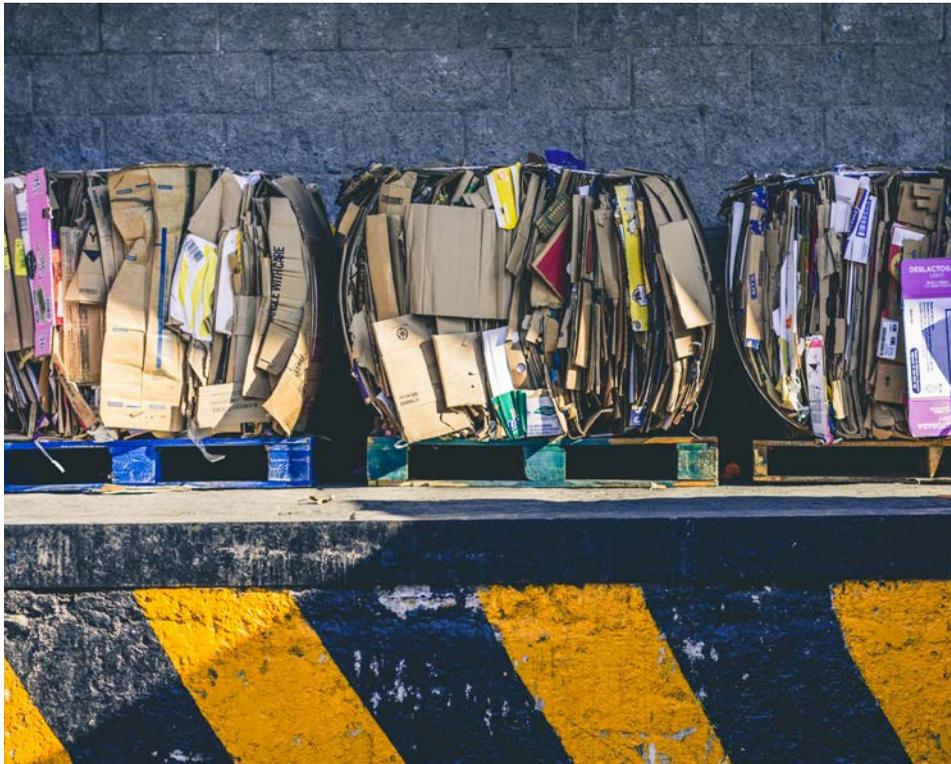
Recycling equipment for paper and organic waste.



Recycled paper made stronger and cleaner

Krima dispersing systems are used in stock preparation systems for recycled paper. The target of dispersion is to disperse – distribute – contaminants in the wastepaper to a non-visible size. This is an economical method for elimination of impurities in the pulp – and it also develops strength properties in the fibers. Cellwood is the world leading supplier of dispersing systems. With a vast number of installations, it is well proven that the Krima system makes perfect economic sense with a short return of investment. The systems are installed in the majority of recycling mills in the world, with the first deliveries as early as 1973.

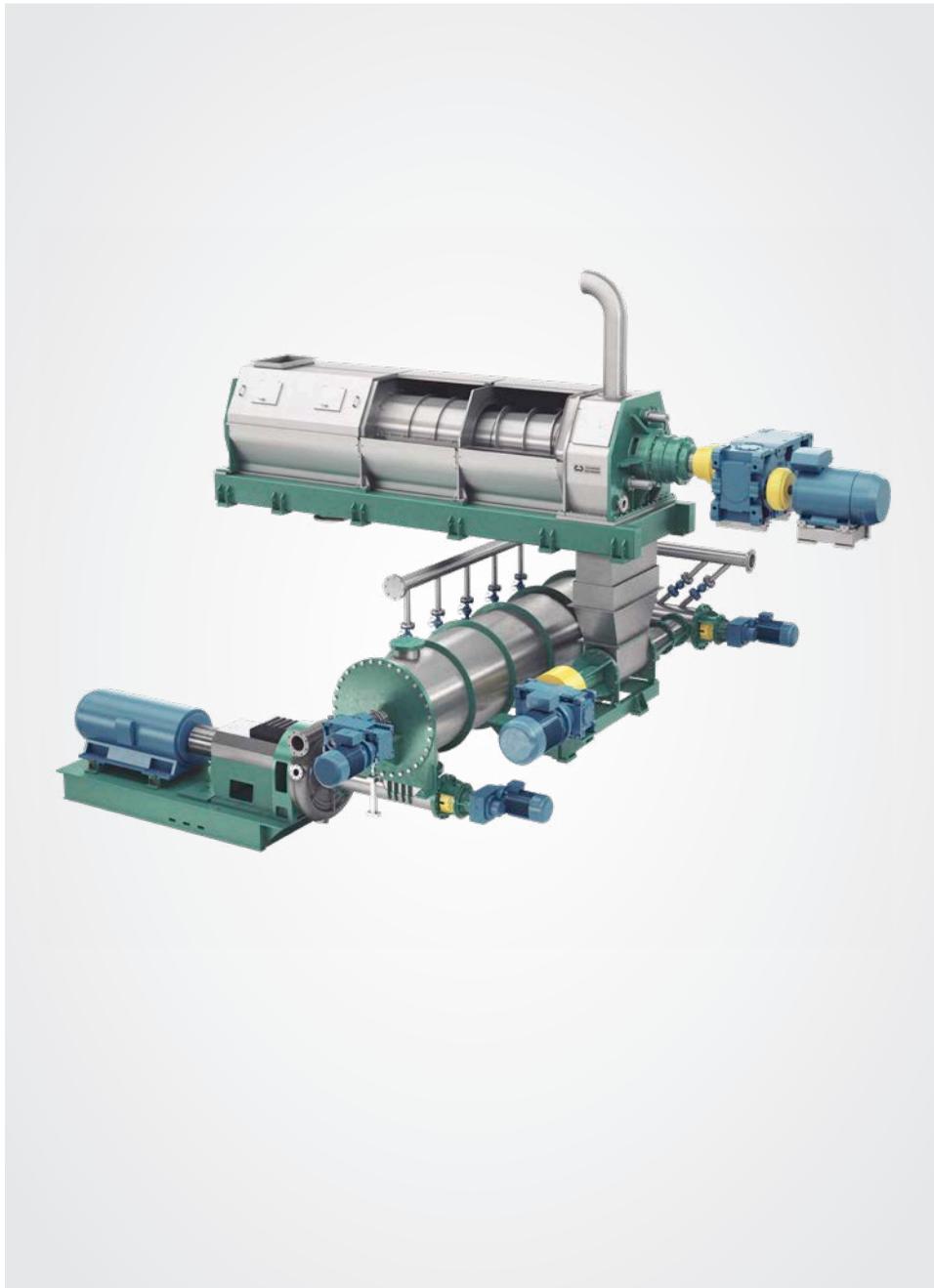
KRIMA DISPERSING SYSTEMS ARE USED TO STRENGTHEN FIBER AND REDUCE IMPURITIES IN THE PULP TO A NON-VISIBLE SIZE.



Savings and improvements can be seen in many areas

- Improved end product quality
- Ability to use a wider selection of raw material
- Increase of yield
- Low energy consumption
- Develop fibre properties
- Decreased need for refining
- Inline bleaching with lower chemical consumption
- Reduction of bacterial spores
- Improved runability on PM

KRIMA
Hot Dispersing
System HDS



HOT DISPERSING SYSTEM. A PRESSURIZED SYSTEM.

The Krima Hot Dispersing System (HDS) is Cellwood Machinery's solution to optimize the performance, flexibility and operating cost on varying degrees of raw material to reach required results. It has a capability to operate at temperatures up to 120°C (248°F). As the most advanced system the HDS produces the best dispersing result on all kind of dispersible contaminants in waste paper. It is also the most flexible dispersing system.

The discharge of the Krima Screw Press KSR does not need to be pressurized as the downstream Krima Plug Screw is designed to seal the system. Retention time through the system is 2 minutes which is enough for in-line bleaching and a high reduction of spores and bacteria in the pulp.

Advantages

- Full flexibility in optimization of dispersing result
- Low energy consumption
- Pressurized system with access temperature up to 120°C (248°F)
- Flexible layout
- Development of fiber properties
- In-line bleaching
- Retention time of 2 minutes
- Capacity up to 1200 TPD

Dewatering Zone

- One stage Screwpress dewatering thickens the pulp from as low as 3 % to over 30 % consistency.
- High consistency is crucial for a fast and economic heating in the Heating zone and to achieve optimum dispersion result.
- Atmospheric discharge from the screw press allows for easy sampling and flexible installation.



Heating Zone

- The heating zone with its closed pressurized design is sealed by a Plugscrew to achieve low steam consumption and flexible operating temperatures of up to +120°C (248°F).
- Shear forces introduced by the plug screw creates a pre-dispersing effect.
- A Shredder finely divides the pulp plug to enable an effective and uniform heating. This will ensure that all fibres and contaminants reach the required temperature needed for dispersion.
- A sealed heating zone makes it possible to connect different dewatering systems.
- The heating zone can be used as a bleaching reactor due to high temperature or only as a chemical mixer.



Dispersion Zone

- KRIMA Dispenser is a disc type Dispenser for superior performance and easy maintenance.
- Unique design guarantees gentle treatment of the fibres at high consistency.
- Energy consumption is as low as 35 kWh/ton (1,75 hpd/ton).
- Dispersing discs are available in different "deviltooth" patterns to give the best optimum result.
- Adjustment of the disc gap on-line with an accuracy of 0.01 mm.
- Flexible discharge consistency from 3 – 35%.



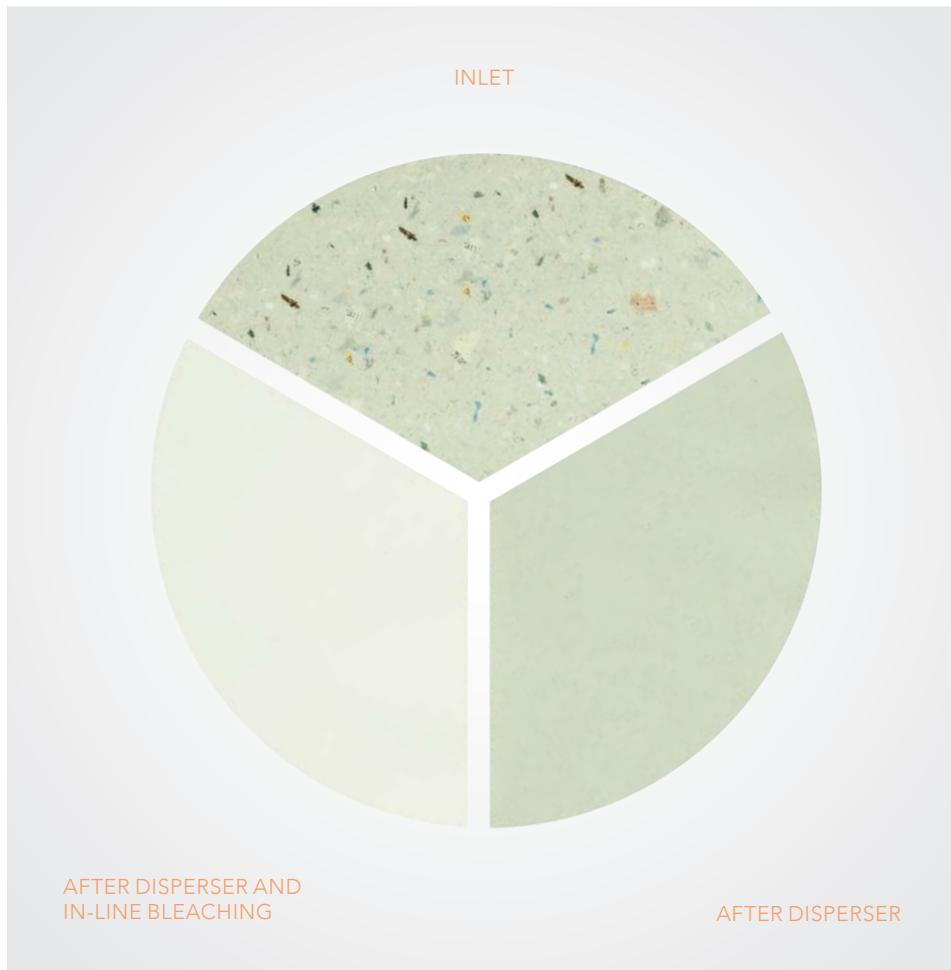
KRIMA Dispersing System

Designed to disperse impurities such as

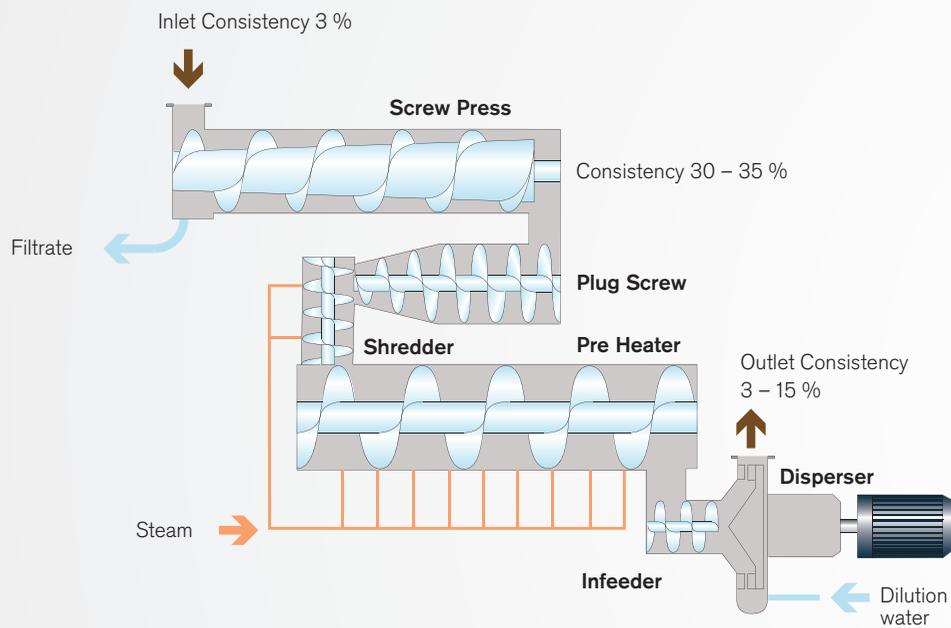
- Wax
- Hot-melts
- Bitumen
- Stickies
- Ink
- Colours and Wet strength paper

**Cellwood have supplied the system to
a large range of products like**

- Linerboard
- Corrugated medium
- Board
- Tissue
- Newsprint and Fine paper

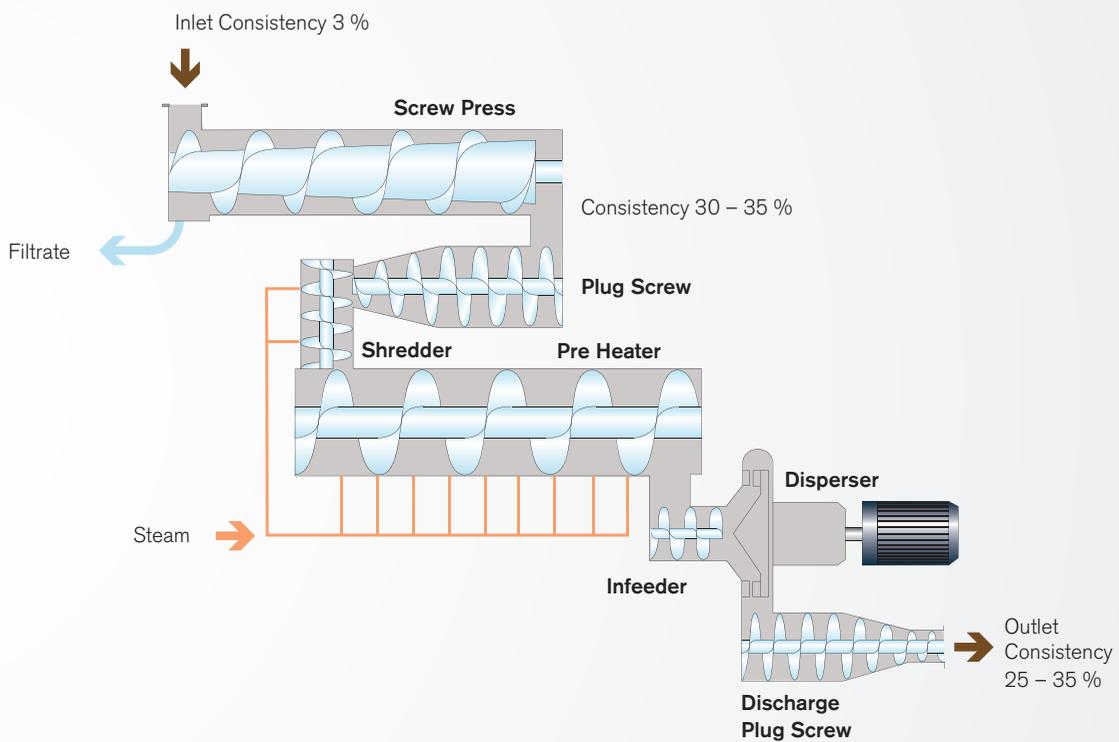


KRIMA Dispersing System Principal Flowsheet With Alternative Discharges



Alternative 1

Krima Dispersing system with a screw press of min 3 % inlet consistency, heating zone and with *low/medium* discharge consistency from disperser.



Alternative 2

Krima Dispersing system with a screw press of min 3 % inlet consistency, heating zone and with high discharge consistency from disperser.

KRIMA
Compact Dispersing
System CDS



COMPACT DISPERSING SYSTEM. A NONPRESSURIZED SYSTEM

The Krima Compact Dispersing System (CDS) is a nonpressurized system with a capability to operate at temperatures up to 95°C (203°F). The Krima Screw Press KSR equipped with automatic torque control ensures a high and uniform discharge consistency.

The design also allows existing dewatering equipment to be used. Retention time in the heating zone is 20–30 seconds.

Advantages

- Low investment cost
- Low steam consumption
- No pressure vessels
- Flexible layout
- Can be extended to full Hot Dispersing system
- Development of fiber properties
- Can discharge at HC without sealing

**Krima Ultra
Compact Dispersing
System UCD**



KRIMA ULTRA COMPACT
DISPERSING SYSTEM.
CONSISTS OF ONLY
THREE MACHINES.

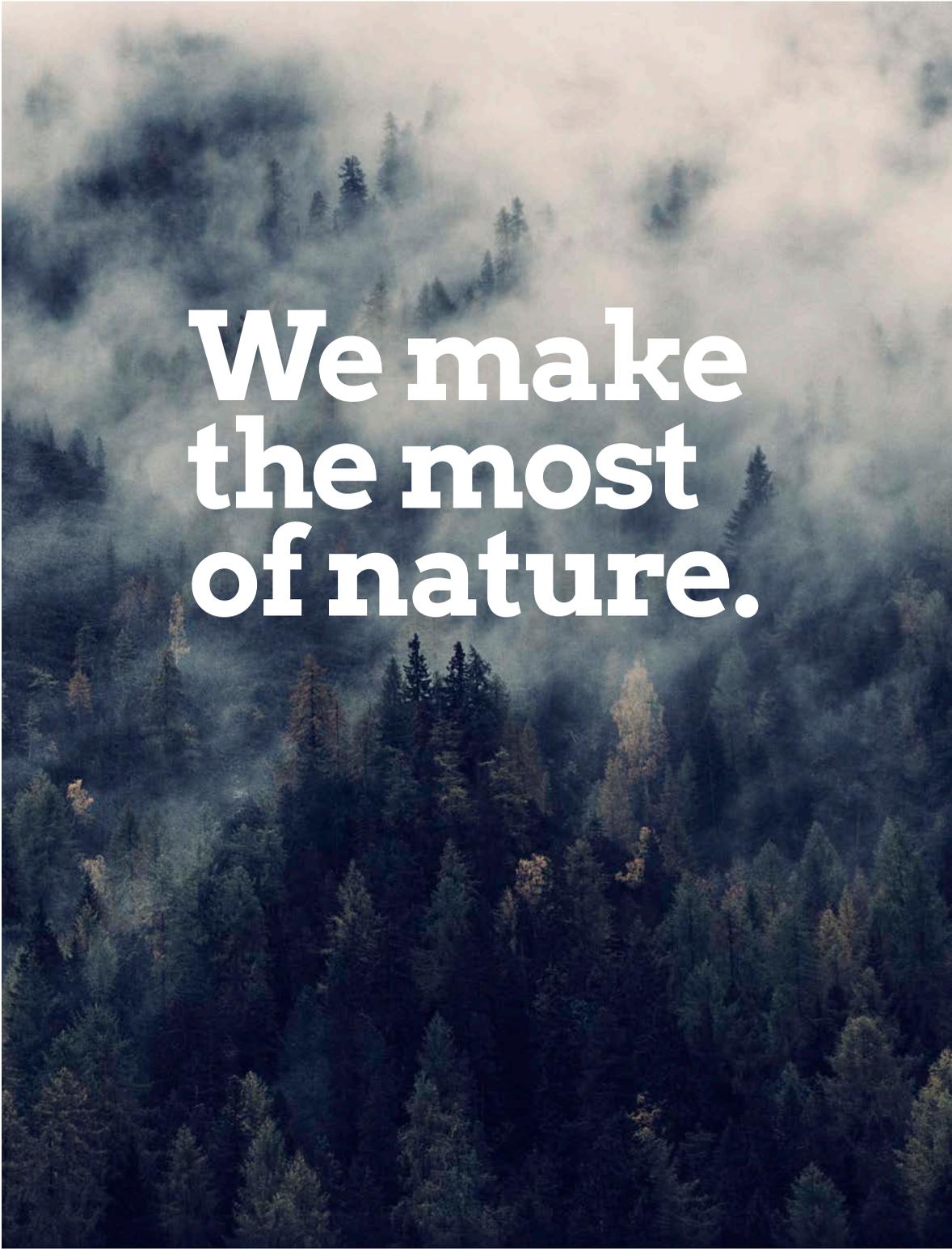
The Krima Ultra Compact Dispersing System (UCD) consists of only three machines with a capability to operate at temperatures up to 110°C (230°F).

The Krima Screw Press KSR dewatering is followed by a Krima Infeed Steamheater, this introduces shear forces into the pulp for a pre-dispersing effect. Retention time in the heating zone is 5–10 seconds.

Advantages

- Low investment cost
- Only three (3) machines
- Low steam consumption
- Can be extended to full Hot Dispersing system
- Development of fiber properties
- Treatment with advantage on wet strength paper applications
- Suitable as HCR, High Consistency Refining, stage
- Pressurized system with access temperature up to 110°C (230°F).

Recycling equipment for paper and organic waste.



We make the most of nature.

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