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AIKAWA • LAMORT • THERMO ELECTRON

CH Pressure Screen

High-Consistency Screening at High Efficiencies

The Fiberprep/Lamort® CH Horizontal Pressure Screen System employs a unique rotor design for maximum efficiency in removing contaminants at up to 5% consistency.

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APPLICATIONS

Waste Kraft. A Fiberprep high-consistency pulping and cleaning loop for waste kraft uses a Fiberprep/Aikawa Helico Pulper® operating at 12% consistency with stock extracted via an external Batch Scavenger® with small holes. After being processed by a high-density cleaner, the stock is screened by a CH with a perforated screen at 3.5% to 4.0% consistency. Secondary screening is provided by a Diabolo® reject screen.

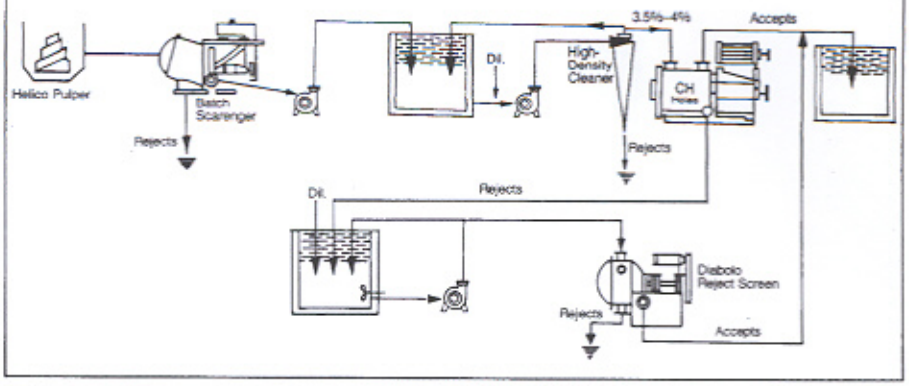
Deinking. One of the most common applications of the CH Screen System is fine, high-consistency screening, removing contaminants from the stock prior to its entering Verticel® flotation cells. This configuration employs a CH with a slotted screen as a primary screen and a CHA with slots for fiber recovery from the CH screen rejects.

OCC and Mixed Papers. This configuration provides high-consistency screening of mixed papers with maximum fiber recovery. Initial screening is provided by a CH with perforated screens, with accepts being screened by a CH with a slotted screen and the rejects processed by a Diabolo Finer® Rejects from the slotted CH and accepts from the Diabolo Finer are processed by a CH and then a CHA for fiber recovery.

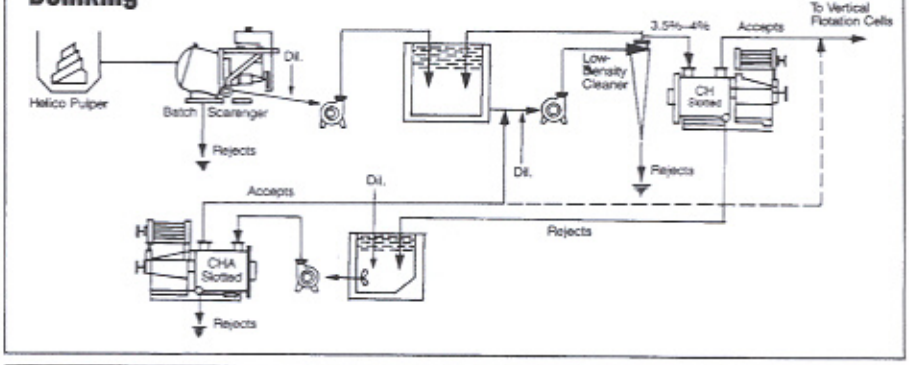
Plastic Removal System. This complete screening system using slotted screens provides positive removal of plastics and other harmful contaminants at consistencies of 4% to 5%. Rejects from the secondary screen are processed by a Fiberprep CHA for total fiber recovery. This system is typically applied to paper machine high-consistency loops.

Fiber Recovery. The CHA is used for fiber recovery from fine screen rejects in pulping, stock preparation and papermaking.

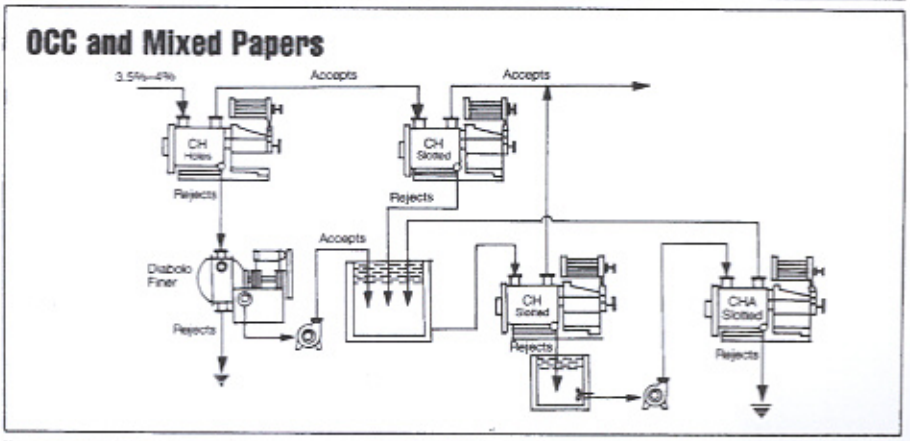
Waste Kraft



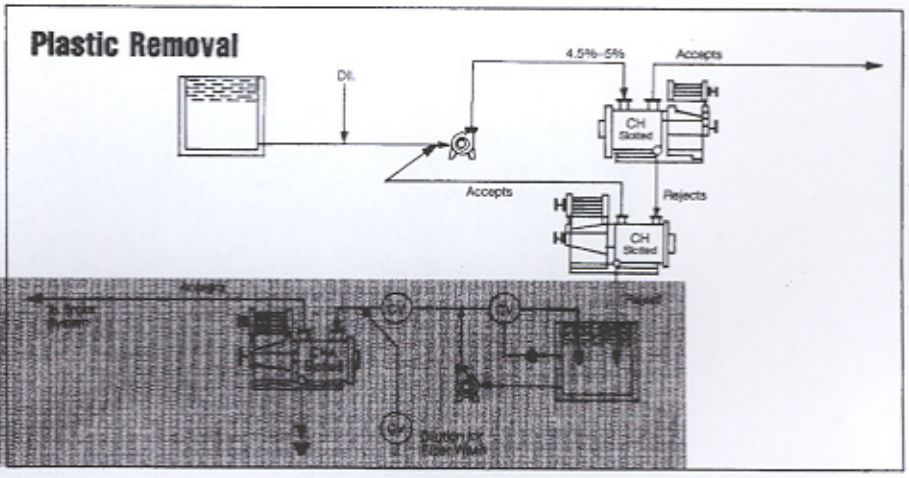
Deinking



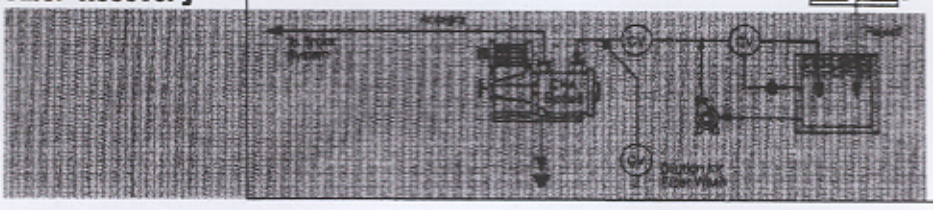
OCC and Mixed Papers



Plastic Removal



Fiber Recovery



PERFORMANCE

The Fiberprep/Lamort CH Horizontal Pressure Screen is designed for efficient removal of contaminants from stock at consistencies between 2% and 5%.

The CH Screen is a proven performer in a variety of applications including mixed papers and OCC, deinking, virgin pulp, broke systems and plastic removal systems.

The CH Screen features a unique open-rotor design for free flow of reject material away from the screen surface. This design enables the CH to be installed with fine slotted screens for maximum screening efficiency.

The CHA is a fiber-recovery screen based on the CH Horizontal Screen and operated on wash-and-purge cycle. The CHA provides total fiber recovery and high-efficiency screening of fine-screen rejects from pulping, stock preparation and paper machines.

The CH Screen system delivers these performance advantages in removing contaminants from thick stock:

High Efficiency. For stock at consistencies between 2% and 5%, a slotted-screen CH provides the highest screening efficiencies possible. The CH foil surfaces are flat to create high local acceleration and high tangential velocities as the foils pass the screen openings. This design allows the removal of debris smaller than the basket opening.

Longer Screen Plate Life. The CH's open and swept rotor quickly and efficiently removes reject material from the screen surface, resulting in longer screen plate life and lower cost of ownership.

Easy Access. The CH features a hinged door for easy access to the foil assembly and screen plate. A standard water packing makes for easy maintenance and replacement without removal of other components. Mechanical seals are also available.

Space and Energy Savings. The open rotor, the swept positioning of the foils and the increased acceleration from the flat-faced foils all combine to produce greater screening in a smaller unit requiring less energy.

HOW THE CH SYSTEM WORKS

The open rotor design of the CH demonstrates the commitment of Lamort and Fiberprep to advance the evolution of screen system design and take full advantage of new techniques such as machined screen surfaces.

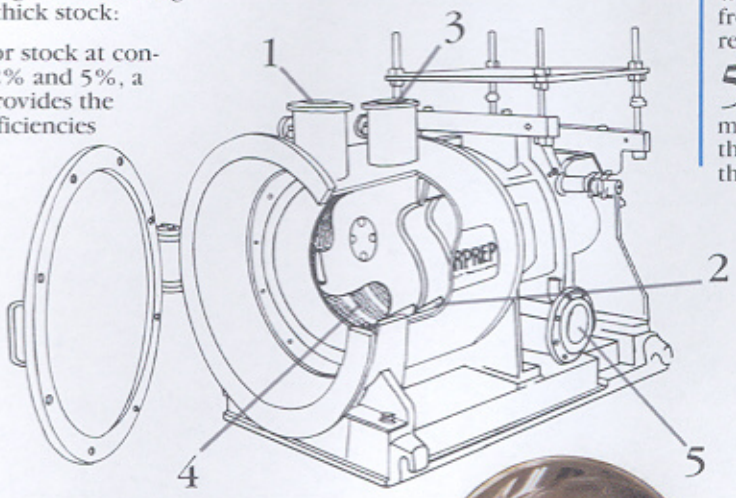
1 Stock enters a feed chamber from above and in front of the screen surface, ensuring that large and heavy debris is not forced between the rotor and the screen basket. Large debris flows through the center of the open rotor assembly directly to the reject outlet.

2 Flathead foils accelerate the centrifugal movement of stock causing it to approach the screen basket at a very low angle, increasing screening efficiencies.

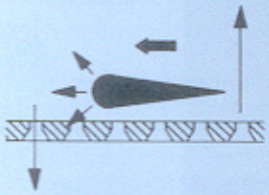
3 Acceptable fibers pass through the screen and then exit the screen chamber through an outlet above.

4 As the foil passes the screen openings it creates a lifting force which pulls reject material away from the basket surface and into the reject flow.

5 The swept design of the foils and the foil assembly accelerate movement of the reject material through the screen chamber toward the reject outlet.

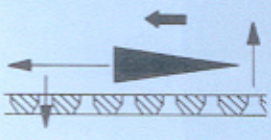


Conventional Foils



With the rounded surfaces of conventional foils, force is dispersed in multiple directions, causing only moderate local acceleration tangential to the screen surface. In addition, the foil increases velocities perpendicular to the screen, forcing debris and fiber through the screen.

CH's Flat-Surface Foils



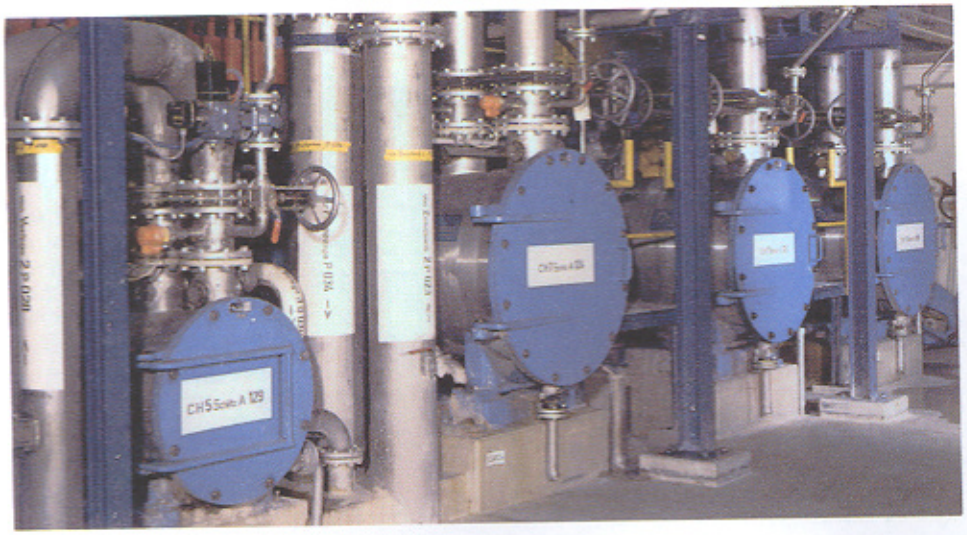
The CH employs flat-faced foils which concentrate local acceleration tangential to the screen surface, causing stock to pass by the screen at much higher velocities. This enables screening of debris much smaller than the actual screen holes or slots.

Original Rotor Design

The original closed rotor design—still available from Fiberprep and Lamort for special applications—directs the unscreened stock and rejects through a narrow space between the outside of the rotor drum and the screen plate. Applications must be carefully selected based on the types and amounts of contaminants to be removed.

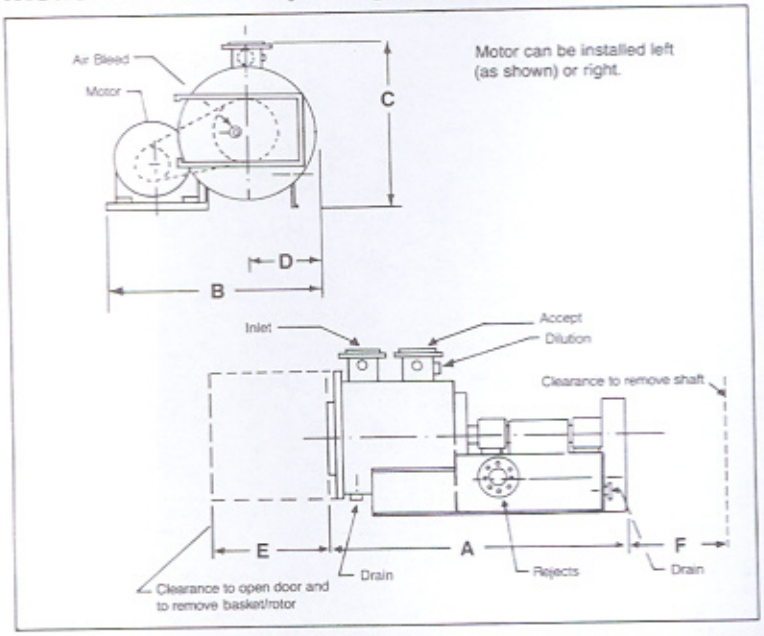
New Open-Rotor Design

The state-of-the-art open design with swept rotor blades enables finer screening and longer screen plate life. Rather than being forced back against the screen, reject material is moved through the center of the chamber toward the reject outlet.



The horizontal design and screening efficiency of the CH enable multiple screens to operate in a relatively compact configuration. The hinged doors provide easy access to the screens and foil assemblies.

Model Dimensions, Weights and Motor Power



DIMENSIONS (inches)	CH3	CH5	CH7	CH10
A	57.5	75.2	96.6	130.0
B	48.0	60.0	66.0	98.0
C	30.6	36.5	54.1	78.7
D	12.3	15.5	22.0	31.5
E	25.5	31.0	42.0	50.0
F	14.0	17.0	29.0	31.4
INLET	6.0	6.0	10.0	12.0
ACCEPT	6.0	6.0	10.0	12.0
REJECT	4.0	6.0	6.0	6.0
WEIGHT EMPTY (lbs)	1,760	2,600	9,900	11,400
WEIGHT OPERATING (lbs)	2,200	3,400	11,300	16,750
MOTOR HP/KW	50/1200	75/1200	150/1200	200/900

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Fiberprep, headquartered in Taunton, Massachusetts, engineers high-performance stock preparation, papermaking and recycling systems. It applies technical innovations such as Gyrocleaning, inward-flow screening and the open-rotor horizontal screen, and develops reliable cost-effective solutions for some of the toughest problems in papermaking.

Fiberprep is an independent engineering and manufacturing company formed by three international leaders in the pulp and paper industry, Aikawa of Japan, Lamort of France and Thermo Electron Corporation of the U.S.

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