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V-MAX® Results in Coarse Applications

There are many reasons to convert from a perforated screen cylinder to a slotted cylinder. Some of these reasons include:

- Increased removal efficiency of coarse screens
- Improved coarse screen operation
- Decreased debris concentration to fine screens and increased efficiency, life
- Concentrated paper and board flakes in coarse screen loop
- Increased coarse screen capacity
- Fiber savings
- Increased debris concentration to final stage atmospheric reject screen

But, as many mills have experienced, conventional slotted cylinders have a hard time holding up in aggressive applications. Some cylinder board mills have tried conventional slotted cylinders in their coarse screens, usually with disastrous results. First, the capacity of the slotted cylinders is not as high as the perforated cylinder. Second, the slotted screens will reject more material in the primary position. The mass rejects rate may increase by 10-15%, depending on the debris concentration. Third, the slotted screen cylinders are not able to handle the coarse pulp without wearing out in a very short time. Finally, impact damage drastically reduces the cylinder life.

J&L's V-MAX cylinder has helped mills achieve their goal of cleaner stock and efficiency in aggressive applications while maintaining comparable life and, in some cases, increasing it. The following mills are two examples of new customers experiencing great coarse screening results with V-MAX.

Mill A

Mill A produces 1500 T/D linerboard from 100% OCC. Their system has coarse screens which follow the HD Cleaners after the Dump Chest. The mill has installed a slotted cylinder in all coarse pressure screen positions in Top and Base ply.

They switched from a 0.062" perforated hole cylinder with breaker bars to a 0.024" slotted V-MAX with breaker bars. The results are shown below.

Slotted Coarse Screen	Perforated Hole Coarse Screen
Feed Consistency: 2.40%	Feed Consistency: 2.40%
Thickening Factor: 1.44	Thickening Factor: 1.53
%FLA: 50%	%FLA: 54%
Efficiency on 0.006" Pulmac: 82%	Efficiency on 0.006" Pulmac: 44%
Accept Capacity: 620 T/D	Accept Capacity: 550 T/D

Mill B

Mill B previously used a .079" drilled cylinder with breaker bars for their Black Clawson Ultra III screen, but recently converted to J&L's 0.024" slotted V-MAX with only four breaker bars. After the conversion, mill benefits included efficiency improvement and considerable improvement in styrofoam removal. Also, the coarse screen loop removed 35% of the stickies presently going downstream. Instead of utilizing 81% full load motor amps, the V-MAX cylinder only uses 41% full load motor amps saving the mill approximately \$28,000 per year in energy savings.

V-MAX has the ability to handle impact issues from coarse debris, the ability to operate at high rotor speeds required for day-in and day out performance, optional designs specific to customer needs, and a proven track record.

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