

Dorr-Oliver™ DSM Screen™ - Type 120°

The DSM Screen™, type 120°, is a simple and effective unit capable of separating fiber as small as 100 microns in length from a water suspension.

The DSM Screen is very compact and requires minimum maintenance. The unique screen plate is made of wedge bars forming a bowed surface with horizontal slots between the bars. Normal slot width is 100 or 150 microns.

The flow to be screened is fed through a pressurized nozzle which distributes the flow tangentially over the full screen width by means of an adjustable slice providing optimum feed velocity. As the suspension flows along the screen plate, thin layers of water are "sliced off" by the screen bars and pass through the slots together with fine particles.

Key Benefits

- Low maintenance costs
- High turndown capability
- Superior operating flexibility due to adjustable slice
- Automated slice opening
- Screen cleaning showers are optional

Main applications

Fiber recovery

rich white water
pulp press pressate

Pulp thickening

couch pit trim
screen rejects
cleaner rejects
PM broke

Felt hair removal

Deinking stock washing

Fiber fractionation

Fiber/filler separation



Fig. 1 Bow Screen, type TS

Working principle

Fibers in suspension orientate themselves in the direction of the flow. Thus, the majority of fibers longer than the slot width will be retained on the screen surface and slide down to discharge at 3-4% solids content, depending on the application.

Under normal operating conditions the screen plates will provide a constant unhindered flow. If under unusual conditions they tend to plug up, they can easily be cleaned with a water hose - even during operation.

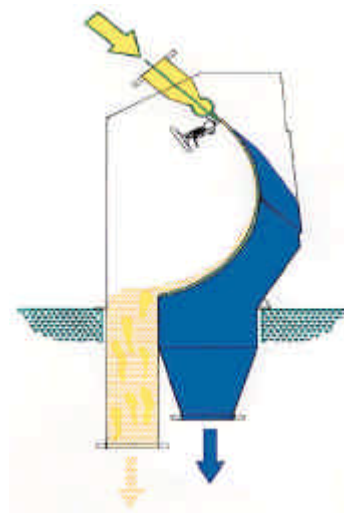


Fig. 2 The fiber suspension sprays over the screen plate

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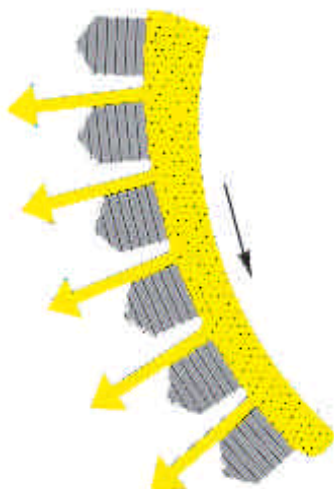


Fig. 3 The bars forming the screen plate feature a sharp upper edge.

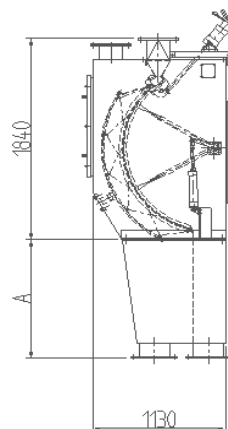
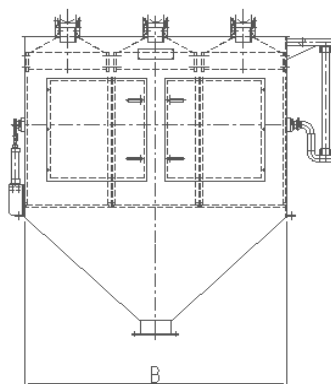
In exceptionally difficult applications the screen can be equipped with an oscillating cleaning device automatically activated for intermittent cleaning of the entire screening surface.

The water consumption for back and front cleaning is 130 l/min (35 gpm) per screen plate, the requirement for water pressure being 7.0 bar (100 psi).

The feed nozzle slice has normally an opening of 2-4 mm (.08-.16 in). The screen is equipped with an automatically operated cleaning device with a pneumatic cylinder for quick opening and closing of the feed slice.

For proper function of the bow screen it is important that the bars forming the screen plate have a sharp upper edge meeting the flow (Fig. 3).

Dimensions and capacities



Screen size	Hydraulic capacity				Height		Width		Net weight	
	1.0 bar		2.0 bar		A		B			
	lpm	gpm	lpm	gpm	mm	in	mm	in	kg	lbs
TS-1	1800	475	2500	660	400	15 3/4	730	28 3/4	360	793
TS-2	3600	950	5000	1320	600	23 5/8	1480	58 1/4	700	1542
TS-3	5400	1425	7500	1980	1000	39 3/8	2215	87 3/16	900	1983

GL&V Pulp Group

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