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FB Classifier



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INATEX



The Linatex FB Classifier is revolutionary new approach to hydraulic classification of particles according to size or density. Using modifications of the world renowned Linatex T-Classifer™ control system, the FB Classifier reliably extracts light particles from a slurry at high efficiency, while misplacing a minimum of heavy particles to the overflow.

Benefits

- Removal of deleterious Material from Sand:
 - **Lignite**
 - **Coal**
 - **Wood**
 - **Plastic / Paper**
 - **Clay / Silt**
 - **Mica**
- Coal / Ash separations.
- Removal of silica from denser minerals (iron ore, heavy beach-sand minerals, etc.).
- Extremely efficient rinsing of soluble or colloidal species from granular particles by virtue of counter-current plug flow.
- Direct bed measurement means more accurate separation.
- Multiple discharge vales yield even draw down of bed without valve blockages.
- Diffuser – plate water distribution system results in even flow at minimal flow rates.
- No moving parts are exposed to slurry so there is little maintenance and long service life.
- Low Headroom design results in low installation costs.

Slurry enters the FB through a central feed well (1) which uniformly distributes solids to a settling chamber (2).

A controlled-rate flow of clean water is injected to a plenum location under the settling chamber (3).

The clean water permeates a membrane (4) and flows upward through the settling chamber, discharging over the overflow weir (5).

The interaction of the rising current and the settling solids creates a fluidized bed which inhibits the settling of fine-size or low density material while allowing the heavier particles to pass easily to the bottom of the chamber.

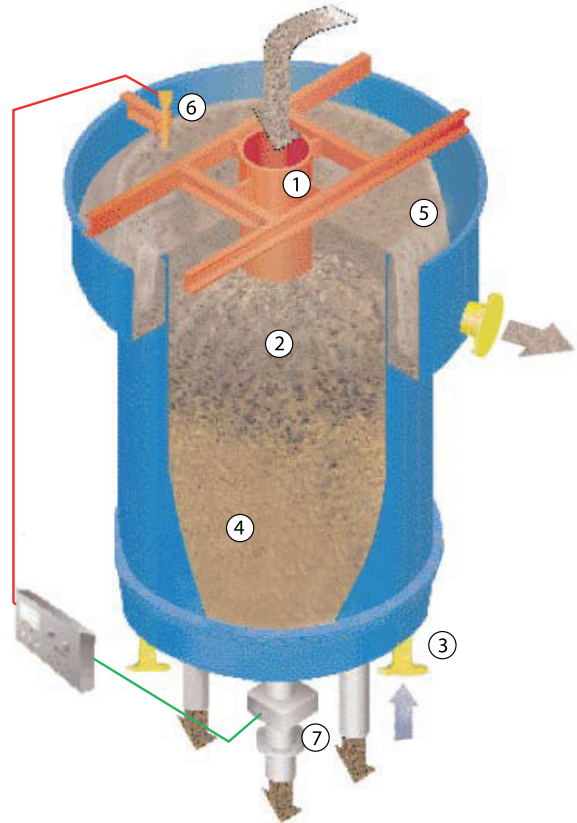
This process is described as hindered settling. A sensor (6) located near the top of the zone of fluidized solids monitors the specific gravity of the slurry and causes multiple discharge valves (7) to open when a set point is reached.

Solids are quickly discharged from the Classifier in frequent, discrete pulses. The on / off nature of the discharge avoids situations which cause valve blockages or bed channeling behaviour (rat-holing) in other Classifiers.

Furthermore, the changing dynamics of the fluidized bed enhance stratification of materials of differing specific gravities.

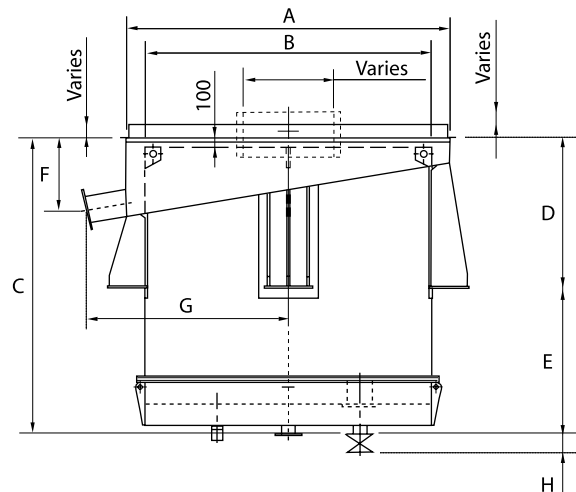
The fine or low specific gravity solids which overflow the weir are typically directed to a densifying hydrocyclone, sieve bend or dewatering screen.

The high density or coarse solids which discharge from the underflow may be stockpiled, further dewatered, conveyed or gravity fed to the next process stage.



Dimensions (mm)

Diameter (m)								
	A	B	C	D	E	F	G	H
1.2	1806	1200	2623	900	1723	387	1058	305
1.8	2160	1835	2846	1075	1391	578	1225	305
2.4	3425	2400	3072	1500	1572	835	2000	305
3.0	3874	3050	3091	1590	1670	1012	2200	305
4.0	4524	4000	3658	2366	1292	666	2490	305



Total Masses (kg)

Based on Live Load at 1800kg/m³, Sanded at 2000kg/m³

Diameter (m)	Empty	Live Load	Fully Sanded
1.2	1,000	6,300	7,800
1.8	2,400	14,000	16,500
2.4	3,500	27,000	34,500
3.0	5,200	45,000	54,000
4.0	10,000	90,000	105,000

Loading Capacities - based on SG 2.7 Material

Diameter r (m)	Lignite / Charcoal Removal from -250µm Sand	Size Classification at ~500µm
	Typical Feed Rate (t/h)*	Typical Feed Rate (t/h)*
1.2	8 - 10	14 - 22
1.8	20 - 24	30 - 50
2.4	35 - 42	70 - 90
3.0	56 - 68	110 - 150
4.0	95 - 115	190 - 260

*Depending on the application and the required sharpness of separation, other loading rates may apply.

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