

NASH Vacuum Pumps and Compressors for Table and Tilting Pan Filter Applications



Table Filters

Table filters can handle thick cakes and be operated at high vacuum levels. They are comprised of:

- A series of fixed trapezoidal cells that form a rotating table. Each is connected to a stationary valve and has a steep sloped bottom.
- An internal valve that controls the various suction and pressure zones.
- An internal rim fixed to the inner table
- A continuous rubber belt that surrounds the table and confines the slurry, wash liquids and cake
- Rollers to support the vertical loads and control the rim
- Radial rubber dams between zones to prevent mixing of filtrates
- A variable pitch screw that transports the cake radially toward the point of discharge

Selection Criteria

- When the downstream process requires a de-lumped cake
- When the solids are fast-settling and can not be kept as a homogenous slurry
- When fast dewatering of cakes is needed
- When a clear filtrate is required
- When intensive cake washing is required
- When a large filtration area is required
- When cakes tend to crack under vacuum measures

Typical Applications

Phosphate
Chemical processing
Mining and mineral processing



Tray Filter Vacuum System

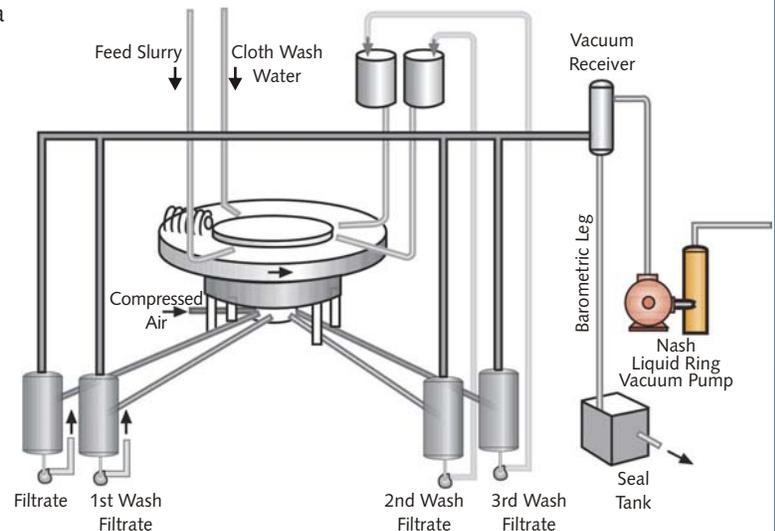
Tilting Pan Filters

A tilting pan filter consists of a series of horizontal independent trapezoidal pans mounted on a circular structure that rotates under vacuum during the filtration cycle. The pans invert and compressed air is applied to discharge the cake. Following the cake discharge, the pans pass over cleaning showers that clean the filter cloth and dislodge any residual cake that remains on the pan's surface.

At the last stage before releveling, a small vacuum pump is used to remove all of the waste water and clean the filter cloth.

Typical Applications

Phosphoric acid
Alumina (hydrate)
Linter pulp
Chemical processing



This diagram is of a table filter, but the same layout applies to tilting pan filters.

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