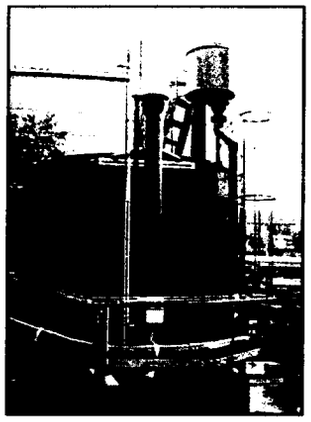
Gravity filters aid waste water treatment



The removal of suspended matter in cooling water used in a wide variety of industries is essential to prevent sedimentation choking up heat exchangers, pipes and other equipment. Slipstream filtration by means of the Interfilt SK Gravity Filter from ProMinent Fluid Controls provides an efficient and economic solution to this problem.

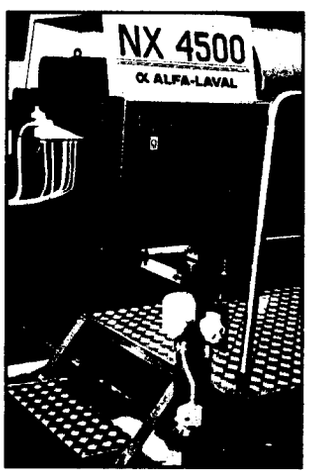
Filtration of a small proportion (1–5%) of the recirculating flow is sufficient to maintain the cleanliness of the circulating system, ensuring faultless operation of the heat exchanger and other parts. The filter is installed next to the cooling tower. A slipstream is tapped from the discharge side of the circulation pump, passed through the filter and returned to the cooling tower basin.

The SK Gravity Filter employs the differential pressure principle, and is driven solely by the effects of gravity on the water. There are control devices, pumps, external energy requirements or parts subjected to wear and tear. Filtering, re-rinsing and post-rinsing take place without any moving parts such as valves, flow meters, or control or display devices. A backwashing facility is provided to purge the filter of the accumulated impurities. This procedure is triggered automatically when the pressures of the raw and filtered water change, because of the residues building up in the filter bed, ensuring that the filter is cleaned precisely at the appropriate time, without external intervention. Dirt washed out of the filter medium is discharged to the sewer. The filtrate is discharged at a level above the filter compartment, so no negative pressure can exist in the filter compartment during the filter cycle. As a result no air trapped in the water can form bubbles, so the dirt blanket remains undisturbed, preventing the formation of funnels and clots.

Filter flow rates vary from 6.5 to 640 m^3/hr, depending on the type of filter used. The basic unit may be upgraded to permit continuous operation, combined water and air scavenging, and the removal of dissolved iron, manganese and/or carbon dioxide.

ProMinent Fluid Controls (UK) Ltd, Queens Drive, Swadlincote, Derbyshire DE11 0EG, UK. Tel: +44 283 214423, fax: +44 283 211142.

NX4500 sludge decanter from Alfa Laval



Alfa Laval Sharples has recently introduced a further decanter centrifuge, the NX4500, to its already extensive range of centrifuges. Designed for sludges of all types, it can either be used for dewatering or thickening, without modification with dewatering capacities, from 10 to 30 m^3/hr. All Alfa Laval centrifuges are designed to provide a high performance/cost ratio, and maintenance is minimalised by advanced abrasive protection on all wetted parts subject to wear.

The NX4500 is built for round-the-clock dewatering of primary, mixed and chemical sludges, both aerobically and anaerobically stabilised, and has wide openings for cake discharge to prevent blockages. Changing from dewatering to thickening can be a matter of minutes. Thickening can be made with or without polymers.

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Harmsco Hurricane Filters

A new range of Harmsco Hurricane Filters has been introduced. The new line — designed for liquid filtration — employs three technologies to provide excellent performance, exceptionally long filter runs, reduced maintenance and the claimed lowest cost per gallon filtered. These technologies include centrifugal separation to remove dense solids, upflow cartridge filtration to eliminate air entrapment in the filter during operation, and deep angled pleats directed toward the rotational flow for increased solids removal.

Liquid enters the filter's chamber tangentially, producing a rotational flow. This flow pattern creates a centrifugal force, used to separate dense particles such as sand, rust, grit and metal fines, from liquids. These heavy particles drop to the bottom of the filter's outer chamber, where they are discharged manually, automatically or continuously. With dense particles removed, the liquid and lighter solids rise up, over and into an inner chamber where the rotational flow is continued.

Lighter solids are removed in the filter's inner chamber by a proprietary filter cartridge made with deep, angled pleats. These pleats are directed toward the liquid's rotational flow. As the forces of the liquid collide with the cartridge, the pleats flutter to evenly distribute particulate within the pleated area. Thus filter efficiencies are greatly improved; longer filter runs are provided; and filtration costs are significantly reduced. The three models have filter areas of 40, 90 and 170 ft^2, respectively, with flow rates of up to 50, 90 and 200 gal/min.

Replacement filter cartridges are available in a wide range of nominal micron ratings, including 0.35, 1, 5, 20 and 50 μm. Cartridges are rated for temperatures to 160°F, and may be used to separate solids in liquids with a pH between 3 and 11. They are made with Polyester Plus filter media, which can be cleaned and reused in most filter applications and micron ratings.

Harmsco Industrial Filters, PO Box 14066, North Palm Beach, FL 33408, USA. Tel: + 1 800 327 3248 (tollfree), fax: + 1 407 845 2474.

Harmsco Italia sas, European Office, Via Salvo D'Acquisto 8, 46040 Guidizzolo (MN), Italy. Tel: +39 376 818782, fax: +39 376 818399.

Blo-thru Vibroscreen with sanitary finish

The Blo-Thru Vibroscreen circular screen separator has been designed to process organic powders in the presence of volatile vapours, at temperatures up to 257°F and at pressures to 14.9 lb/in^2. The unit has a sanitary finish for complete cleaning.

When processing powder through a two-mesh screen, a maximum scalping rate of 51,400 lb/hr is achieved. A 14-inch diameter product discharge spout helps the on-size product to exit the machine, preventing handling problems from limiting throughput.

The unit has been designed with an explosion-proof motor and high-temperature gasketing. The large-diameter discharge spout means a special connector is used. This helps the connector to resist pressure and temperature while carrying product from the unit.

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