

Process Filtration Systems from Komline-Sanderson

CIX Horizontal vacuum filters for process applications



Designed To Perform, Built To Last

The **CIX** horizontal vacuum filter receives slurry continuously and performs filtration, extraction and drying with extraordinary efficiency as the cake is progressively indexed through the discrete zones of the filter.

CONTINUOUS FEED
INDEXING FILTER MEDIUM
XTRAORDINARY EFFICIENCY

Processing Benefits

• Efficient cake formation

The **CIX** horizontal vacuum filter is ideal for processing solids in a wide range of particle sizes. Fast settling or large particles form cakes rapidly when vacuum is applied as the continuously fed slurry settles onto the filter belt. The belt speed is automatically adjusted to maintain uniform cake thickness.

• Precise separations

Wash liquors can be applied via continuous wash distributor or flood wash at a selected location. Trays are piped to achieve precise separation for efficient counter-current cake washing.

• High efficiency cake drying

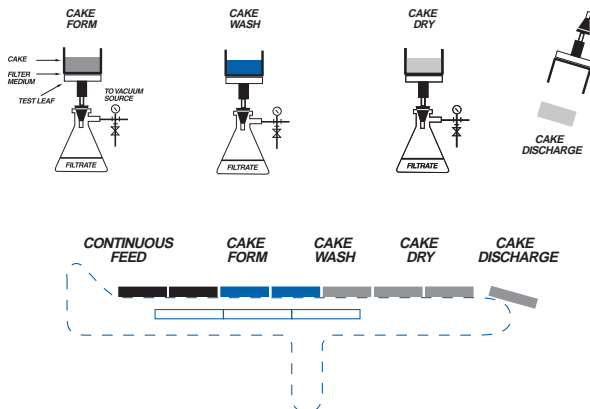
The cake is air dried, or drying can be enhanced by application of steam. Application of a compression membrane further reduces cake moisture. Some systems apply radiant heat or hot air to the cake.

• Consistent performance

The simplicity of the **CIX** design permits all functions to be monitored automatically and requires only minimal operator attention. Filter functions can be adjusted in response to feedback from monitors to ensure product consistency.

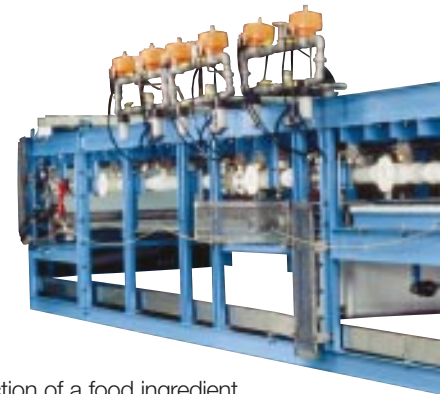
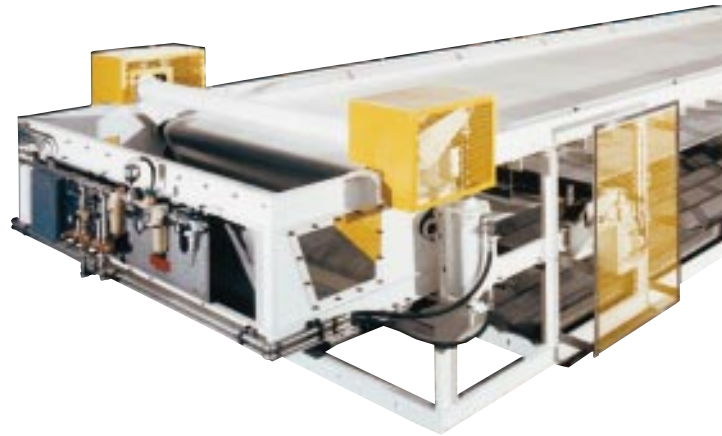
• Scalability

Traditional laboratory testing, using a filter leaf or Buchner Funnel, permits the multi-step process of the **CIX** horizontal vacuum filter to be demonstrated in the lab, then duplicated on a production scale:

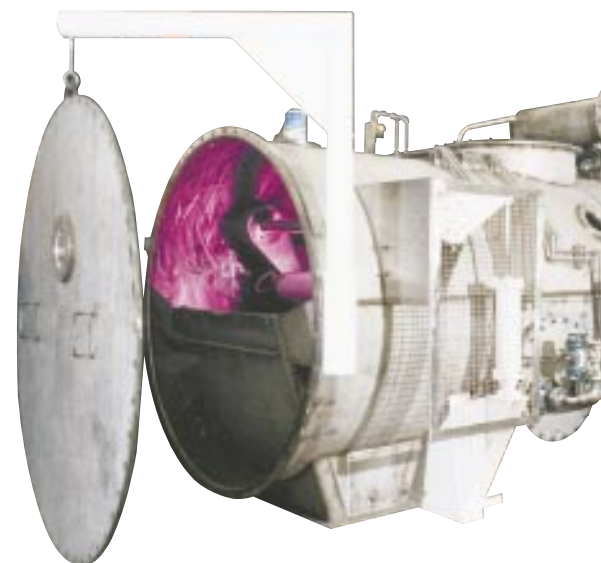


• Clean work area

High sloping sides on the filter trays prevent spillage. A patented vacuum clamp removes residual cloth water from the filter belt and eliminates dripping under the filter.



Filter for production of a food ingredient.



Versatility and Economy

The **CIX** horizontal vacuum filter has proven its versatility, performance and economy in numerous installations worldwide. The individual zones can be programmed for liquid/solid separation, multi-step washing and cake drying. Counter current washing with separate filtrate collection can be easily and precisely accomplished.

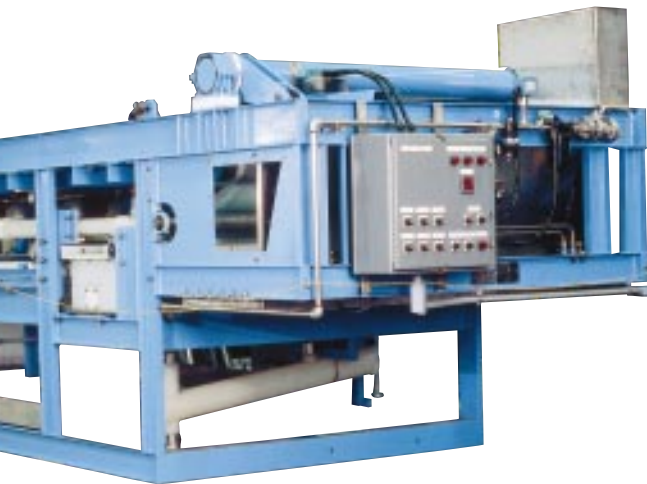
- **CIX** unit eliminates costly belt replacement required on rubber-belt type horizontal filters. Less floor space is required for maintenance purposes and the modular design allows greater leeway for process adjustments.
- After several years of operation one user purchased additional trays, allowing a 40% increase in throughput to meet increased demand for their product.



Vacuum filter for dewatering, washing and drying gypsum to be used in wallboard production.

Special Features & Benefits

- Filter zones can be grouped to provide discrete separation of the process steps. Filtrate collection piping can be arranged to suit changing process requirements. Each grouping of filter zones is provided with a dedicated vacuum vent/valve which is individually programmable to meet process requirements.
- No sliding parts during filtration means no vacuum loss through moving seals, and minimal wear. Excellent sealing of the **CIX** filter allows high operating vacuum, resulting in dryer filter cake.
- The system's modular construction allows the filter to be lengthened to provide extra zones.
- The polypropylene filter trays are resistant to most common corrosive agents; they are optionally available in stainless steel construction, including GMP construction.
- Cloth tracking sensors are pneumatic. Other sensors are electronic and can be routed through intrinsically safe barriers, making the entire system explosion-proof.
- The entire **CIX** filter/dryer can be housed in a vapor-tight enclosure to contain hazardous or explosive vapors. The actuators for all valves and powered components are located outside the enclosure, eliminating the need to enter the vessel to maintain these items.
- The polypropylene cloth support grids have a service life of many years. If replacement is ever required, it can be carried out in less than one day at minimal cost. The **CIX** filter has fewer moving parts than other horizontal filters. Spare part inventory and service costs are kept to a minimum.



Where process material or fumes are hazardous, the filter can be fitted with a totally vapor-tight enclosure. Vapors are condensed from the process gas before the gas is returned to the enclosure. This machine replaced centrifuges, increasing throughput and product quality.

Typical Filtration Applications

Pharmaceuticals
Fine Chemicals
Pigments/Dyestuffs
Crystalline and Amorphous Materials
Resins
Pulps and Vegetable Matter
Gypsum
Zeolyte
Mineral Concentrates

Superior Technology For Liquid-Solid Separation, Drying And Cooling

Komline-Sanderson provides technology for value-added processing in pharmaceutical, food, paper, inorganic and organic chemicals, engineered materials, and other industries, and for industrial and municipal wastewater treatment.

K-S thermal products are used to transfer heat into or from slurries, pastes, cakes, granules or powders. K-S filtration products are used to clarify, thicken, dewater, and purify suspensions and slurries, and to recover solids and concentrates.

For more than 50 years, Komline-Sanderson has been synonymous with reliability. Find out more about our products and you will understand why.

Laboratory & Pilot Testing

To assist you in selecting the optimum K-S filtration-system, Komline-Sanderson offers laboratory testing and pilot demonstration equipment.

To evaluate the performance of the **CIX** horizontal vacuum filter, bench scale testing with a filter leaf is available. Leaf testing indicates the filtration rate and is used to check the feasibility of a type of filter. Proven filter leaf scale-up factors allow the leaf test results to be used to "size" vacuum filters.

If an on site demonstration is required, small scale production filters are available on a rental basis.

Filter Fabrics

The K-S Filter Fabrics Division can provide a wide variety of filter media custom made for each K-S filter system. K-S technicians can specify the proper filter medium for any application.



K-S Process Application Technology

● Liquid/Solid Separation

- Filtration
- Dewatering
- Clarification
- Cake Washing
- Extraction
- Product Recovery



● Thermal Processing

- Drying
- Heating
- Cooling
- Reacting
- Crystallizing
- Sterilizing



● Wastewater Treatment and Sludge Management

- Clarification
- Thickening
- Dewatering
- Drying
- Pumping



● Aftermarket Products and Services

● Test and Pilot Scale Facilities

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