

## Gauthier filter

Closed filter with horizontal plates

The Gauthier filter is a closed filter with horizontal plates. Manual and strong, it is easy to use and does not require any particular qualification for the operators.

The Gauthier filter is a multi-purpose filter, in particular, used in cosmetics, chemistry, pharmacy, resin/varnish/polymer, food applications. It can be used for separation, clarification, discoloration or retention of catalyst and activated charcoal.

This filter is particularly adapted to the batch filtration process, without loss of product.

The various proposed options allow the Gauthier filter by Filtration Group, to answer to the specific requirement from users.



### Advantages

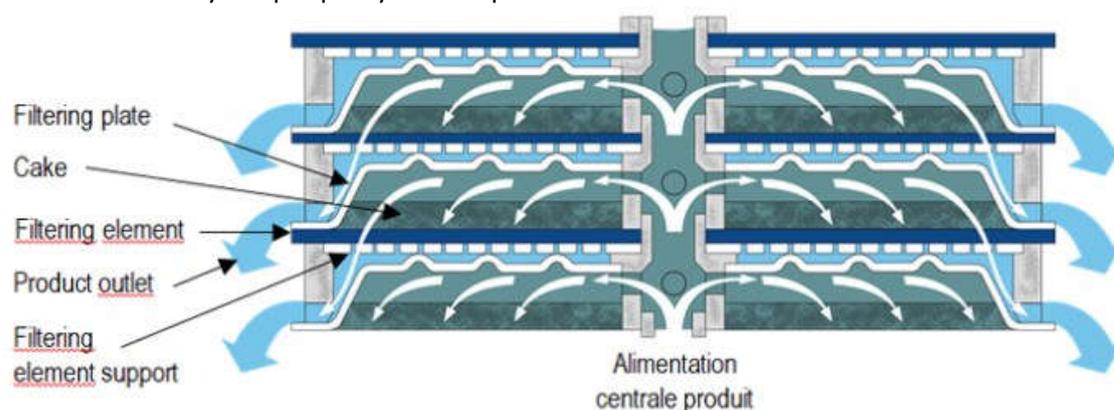
The Gauthier filter presents the following advantages:

- easy to use,
- adaptable to the user activity,
- moderate the cost of consumables.
- Its “closed” design allows:
  - to avoid loss of product,
  - to avoid the emanation of volatile, toxic or flammable products,
  - to operate out from the air or under neutral gas,
  - to filter as well as overheated liquids or high-voltage vapored solutions as cooled liquids.

### Operation principle

The plates which supporting filtering elements are arranged horizontally around a central rod, inside a vessel hermetically closed.

The liquid is uniformly distributed on each plate and after passing through the filtering element, the liquid is evacuated by the periphery of each plate.



The horizontal arrangement of plates facilitates uniform distribution of solids on the entire filtering area and good stability of the obtained cake.

At the end of the filtration process, the cake can be washed with a low volume of liquid. All of the filtrate can be got back by gas injection.

For some applications, this filter can be designed as external feeding, in order to get the filtrate back by the central rod.

### **Plates tightening device**

We propose 3 different kind devices for tightening of plates:

- manual through bottom: traction of the central rod by screws and dynamometric key,<sup>2</sup>
- hydraulic through bottom: traction of the central rod by cylinder and hand pump or hydro-pneumatic pump,
- hydraulic through the top: tightening by cylinder and hydro-pneumatic pump

Hydropneumatic pumps allow an automatic tightening of plates during the filtration process, in this way avoiding any risk of airtightness loss.

### **Cake thickness and height of the chamber**

Height of chamber of filter plates must be adapted to cake thickness produced during the filtration process.

Some standard chamber heights are available, according to the chosen material of construction for filter plates.

### **Cake discharge**

The filtering block is a stacking of filtering plates and filtering paper tightened between a bottom and a top supporting plate.

Two options are possible in order to regenerate the filtering block:

- plate by plate handling,
- handling of the entire filtering block allowing to get filter plates out of the vessel by only one operation.

The “filtering block tube” allows the user to save time during the discharge operation, in particular, to put a new filtering block in the vessel, prepared before

### **Construction material**

Regarding the vessel, material of construction available:

- stainless steel (304L, 316L, UB6, C276, C22, etc.),
- carbon steel,
- stainless or carbon steel halar or ebonite coated.

Regarding filter plates, the material of construction available:

- stainless steel (304L, 316L, UB6, C276, C22, etc.),
- carbon steel,
- polypropylene (PP),
- poly(vinylidene fluoride) (PVDF).