

# Solids Separator



## Solids Separator Filter

Our Solids Separators allow to separate the solids contained in a solid-liquid mixture and continuously recover the filtered liquid materials.

## Filtering in the industry

In many fields of industry, it is necessary to filter or concentrate a mixture by means of filtration. Filtration is the process of separating solid particles from a liquid using a porous material called a filter. This technique consists of pouring the solid-liquid mixture to be treated through a filter that allows the passage of the liquid but retains the solid particles. This filtration process has a limit that is reached when the solid particles have saturated the filter openings.



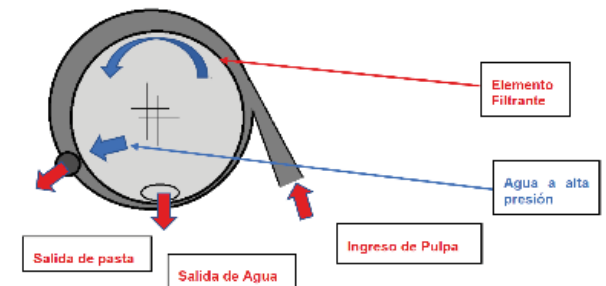
## Solids separator concept

The Solids Separator Filter is a filtering device that can operate continuously, allowing a mixture with a high content of solids to be received, and divided into two output flows, one of them with a low content of solids and a second with a higher solids concentrate than the incoming material. The particularity of this innovation is that it overcomes the limitation of the filtering component, because it never becomes saturated.

## How it works

In the Solids Separator, the flow of material to be filtered enters an intake chamber where it advances in contact with a cylindrical filter drum that rotates at approximately the same speed as the flow. The liquid is able to pass through the filter component to the product chamber and from there immediately to the outlet duct, but the solid particles are retained on the outer surface of the filter element. At the end of the drum turn, the filter element is saturated with solid particles, at which point a small flow of high pressure clean water pushes the solid particles upstream, cleaning the surface of the drum in preparation for the next turn.

The solid particles, now mixed with a smaller amount of water, leave the filter chamber to the concentrate pipe. Energy is required only to move the filter drum in the same direction as the flow, and to compress a small fraction of the water at high pressure and drive it through the injectors. Oversize reject material is ejected through the lateral outlet on the perimeter of the drum at 270 degrees opposite the inlet flow.



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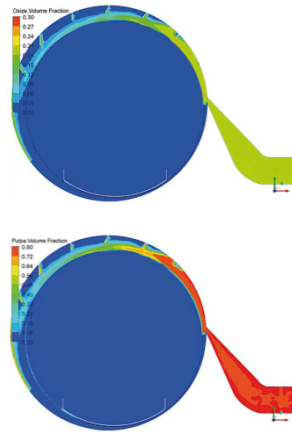
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## Industrial Applications

There are endless applications for this device because there are so many instances in industry where filtering is required. The virtue of this equipment is that it does not require stopping to change or clean the filter element. The other variable is cost, because by being such a simple piece of equipment, it has a low investment cost and low operating cost.



## Manufacturing Materials

Shell manufacturing materials	Steel ASTM A36, stainless 304, 316, Duplex
Filter component manufacturing materials	Steel ASTM A36, stainless 304, 316
Inner lining	Natural rubber, Neoprene, Polyurethane, Polyurea

## Main equipment dimensions

Flow (m3/hr)	50	100	150	200	400
Diameter (cm)	230	600	950	1300	2600
Depth (cm)	100	300	450	600	1200
Nozzle diameter (pulg)	1 1/2	4	6	8	16
Turning speed (RPM)	15	25	35	38	50
Driving power (Hp)	0,75	2	3	4	8

## Main Characteristics

- 1 **Basic Characteristics**
  - a. Accepts solutions such as pulps, tailings or other aqueous solutions
  - b. Separates into two flows, one of concentrate and the other of filtrate
  - c. Continuous flow operation
  - d. Allows change of filter screen
  - e. Easy construction and maintenance
  
- 2 **Importance to the Client**
  - a. Allows recovery of filtered water
  - b. It can be arranged in series or cascade with filters of different mesh
  - c. Can be arranged in series to cover the entire flow
  - d. Low investment cost
  - e. Low operation cost
  - f. Can work with other filtration systems
  - g. Can be easily installed and relocated
  
- 3 **Perception of Value**
  - a. Recovery of filtered liquids
  - b. Improves the circularity of operations
  - c. Provides a simple solution for filtering needs
  - d. Continuous flow operation
  - e. Safe and reliable operation
  
- 4 **Customer Benefits**
  - a. Easily implementable workaround
  - b. Low-cost investment and operation
  - c. Flexible Installation

