

Beef Processing Facilities

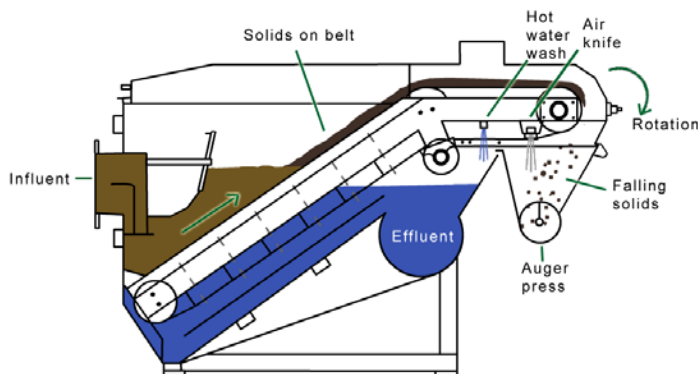
SALSNES FILTER

Wastewater from beef processing facilities typically contains high amounts of total suspended solids (TSS), BOD, and floatable materials, including fats, oils, and grease (FOG). The Salsnes Filter removes organic and inorganic solids as fine as 10-30 micron, improving water quality and discharge options for these facilities.

How It Works

The Salsnes Filter removes solids on a continuous-loop fine mesh screen. As the screen moves, it carries solids out of the flow and drops them into a hopper. An auger press dewateres the collected screenings while screened wastewater flows through the unit.

As the screen rotates, a patented air-blower system forces the retained screenings off the mesh and into the screenings hopper, virtually eliminating solids carry-over. Additionally, a patented hot water wash periodically removes any grease or other solids that may adhere to the mesh.



Salsnes Operation Diagram

Advantages of the Salsnes Filter:

- Excellent TSS removal: 50-70%
- Excellent BOD removal: 30-60%
- Handles floatables such as fats, oils, and grease
- Low capital and O&M costs
- Patented, self-cleaning design
- Small footprint with odor containment
- Integrated screenings dewatering



Salsnes Filter at a Beef Processing Facility in Florida

Beef Facility Case Studies

Full-scale Salsnes Filters have been tested at multiple beef processing facilities in the U.S. Potential applications of the filter include treatment of raw wastewater, solids removal from pre-screened wastewater, and replacement of existing bar screens.

At slaughterhouse facilities, studies show the Salsnes Filter has the most efficacy on wastewater streams which include paunch contents, including bedding, manure, hair, and dirt. Paunch manure consists of partially digested feed material and has a very high BOD value, around 50,000 mg/L. The corresponding TSS loads in wastewater streams are around 3,500 mg/L, and can be as high as 10,000 mg/L.

A summary of Salsnes Filter results at beef processing facilities includes:

- Removal of 50-70% or more TSS.
- Removal of 30-60% or more BOD.
- At one plant, TSS was lowered 73% from 6,760 to 1,820 mg/L; BOD was lowered 62% from 4,540 to 1,730 mg/L.
- The filter cake produced was roughly 15-25% solids.
- Fats, oils, and greases were easily handled with the unit's hot water wash feature.

The Salsnes Filter is an excellent option for removing large amounts of solids from wastewater streams at beef processing facilities. The filter provides an immediate improvement to water quality and discharge options.





The Salsnes Filter can remove solids as fine as 15-30 microns. The mesh size can be varied depending on the application.



The screen is cleaned as it moves along the conveyor. The solids drop into a hopper. An optional hot water wash cleans grease and oil.



In the hopper, a screw press dewateres the solids. Cake from beef processing facilities is typically 20-25% solids.



The integrated dewatering feature allows multiple options for disposal of the screenings.

Salsnes Filter has a very small footprint, saving major infrastructure investment and space. The filters are compact, completely covered systems which are easy to maintain. Screenings dewatering and odor containment are integrated parts of the machine.

Salsnes supplies standard equipment with a range of available sizes. Due to the modular nature of the equipment, there is no limitation in flow capacity. The Salsnes Filter is available in four unique models which can be applied to beef processing applications, with up to 400 gpm in a single unit.

Salsnes Filter Capacities & Dimensions

Parameters	Model #			
	SF 1000 ¹	SF 2000	SF 4000	SF 6000
Flow Range ²	20 - 65 gpm	40 - 140 gpm	75 - 225 gpm	100 - 400 gpm
Length	48"	74"	91"	102"
Width	42"	64"	85"	107"
Height	51"	52"	52"	65"
Weight	850 lbs	1050 lbs	1275 lbs	1600 lbs

¹ Model SF1000 has an integral air blower within the filter enclosure.

² Capacities shown are based on beef processing facility wastewater with 3,500 mg/L TSS using a 500 micron screen. The capacity is significantly higher on more dilute wastewater.

See the video of a Salsnes Filter in action at www.blueh2o.net/salsnes.

Contact your Blue Water Representative to:

- obtain a beef processing facility pilot report on Salsnes Filter performance,
- learn more about how the Salsnes Filter solution may fit into a specific plant,
- arrange a pilot demonstration at a plant.

Blue Water is proud to offer a broad platform of water treatment technologies, from primary wastewater treatment to advanced effluent polishing steps to environmental remediation processes. We strive to meet our customers' needs cost-effectively, considering both capital expense and ongoing operations and maintenance costs. Additionally, we keep an eye on the future by looking for sustainability in our technologies, including environmentally friendly materials and energy conservation.

