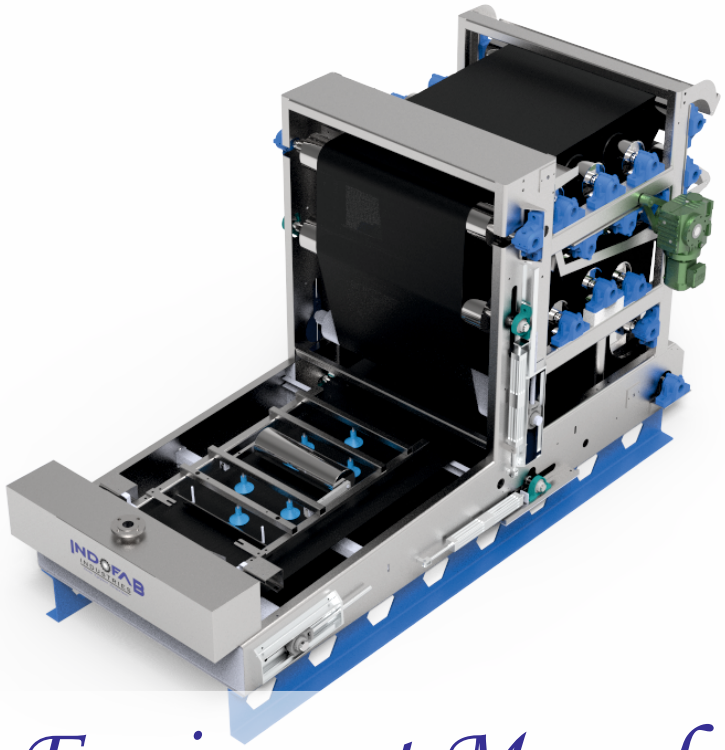
INDOFAB INDUSTRIES

Process Equipment Manufacturers

ISO 9001:2015 Certified Company



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SEDIMENTATION | FILTRATION | MIXING

BELT FILTER PRESS

BELT FILTER PRESS

INDOFAB Belt Filter Press range is popular as sludge thickening and dewatering solution in Wastewater Treatment Plants. Belt filter presses are used to remove water from liquid wastewater residuals and produce a cake. Dewatered residuals, or cake, vary in consistency from that of custard to moist soil. It serves the following purposes

- Reducing the volume, thus reducing storage and transportation costs.
- Eliminating free liquids before landfill disposal.
- Reducing fuel requirements if residuals are to be incinerated or dried.
- Avoiding the potential of biosolids pooling and runoff associated with liquid land application.

WORKING PRINCIPLE

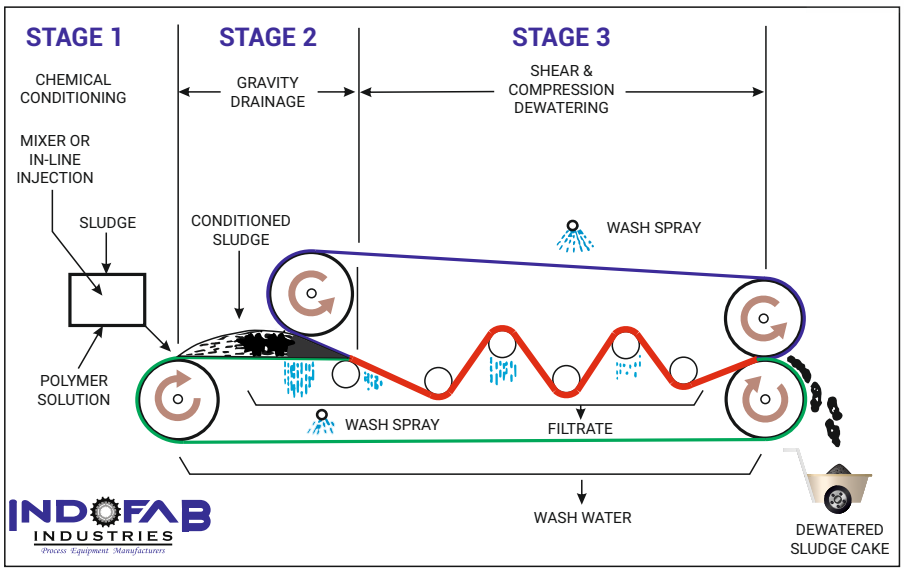

FIGURE - depicts a simple belt press and shows the location of the three stages. Although today presses are more complex, they follow the same principle indicated in the Figure.

CONDITIONING

The process begins by first conditioning the sludge required to agglomerate the suspended sludge solids into flocs. INDOFAB BFP is inbuilt with a flocculation tank with mechanism to ensure the Conditioning stage is complete. Conditioning is designed to build sludge floc so that they can withstand gradually increasing pressure and shearing action.

THICKENING

In this stage the sludge is uniformly distributed over belt width by spreaders allowing draining of liquid by gravity. The purpose is to remove the excessive free water quickly to facilitate thickening of sludge.

PRESS DEWATERING

In this stage two filtering belts converge forming a wedge press the sludge to dewater it. Continued by pressing over large diameter squeezing roller to form a sludge blanket. This is further squeezed by specially designed three roller press mechanism.

SHEAR DEWATERING

When sludge enters the shear dewatering section there are a series of rollers in S type formation to form sludge cake by shear force. This stage shears the sludge to liberate engulfed liquid using shear force. Therefore, sludge dewatering is maximal and the capture rate is optimal.

CAKE DISCHARGE

The dewatered sludge also known as cake is scraped from both filtering belts. The cake usually contains 60% to 85% moisture depending on type and nature of sludge.

BELT WASHING

To enable the filtering belts to keep their filtration capacity, they are washed periodically on the travel back to the thickening zone.

PRODUCT FEATURES

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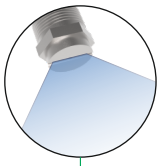
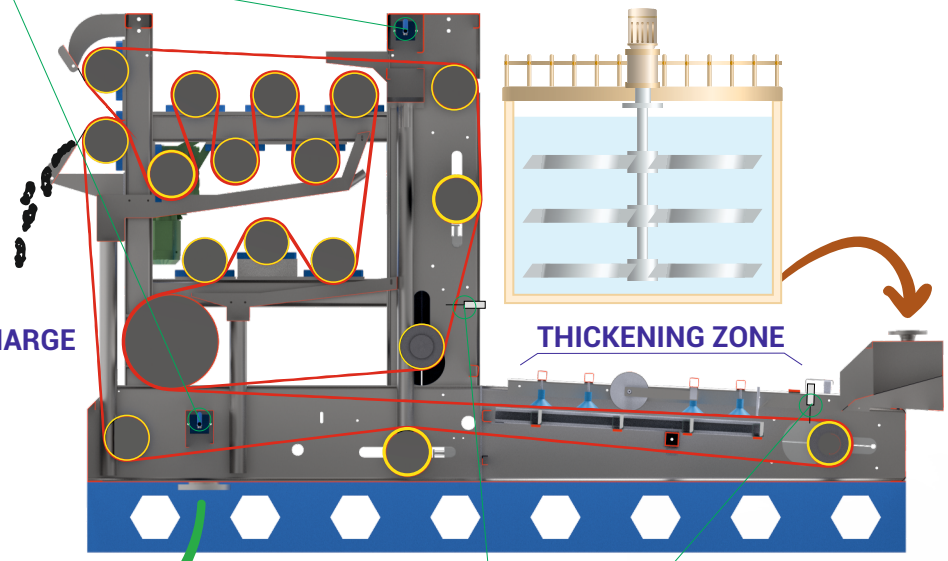


WASHING
to keep the belt clean intermittent washing is provided by stainless steel flat V-jet nozzles

CONDITIONING TANK
integrated tank with no additional footprint & high rate of conditioning



CAKE DISCHARGE

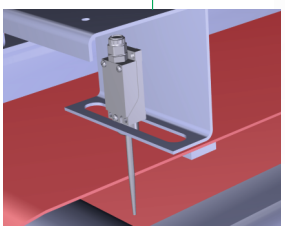
THICKENING ZONE

BELT TRACKING [3]
This pneumatic system enables to ensure a perfect belt alignment at all times. Two limit switches on each side of the belt senses alignment and actuates pneumatic arm to displace the rubber-coated tracking rollers.

FILTRATE OUTLET
Filtrate from the dewatering process is collected in individual trays and can be reused for washing after treatment

CLEANING ACCESS
Easy access for supervision and maintenance

SAFETY
Each filtering belt is equiped, on the side, with electrical limit switches which stops the whole dewatering equipment, should the tracking system fail to move the belts to the good alignment.



BELT TENSION
Both the belts are individually adjustable using spring to modify filtration pressure

- Low energy consumption and operating cost per kg dry solids
- Adaptable to all types of sludge (Organic, Inorganic and Fibrous)
- Simple adjustments are required to adapt filter operation to sludge properties
- Continuous operation
- Low noise and vibration transferring all load to two beams requiring minimal foundation.
- Minimal footprint - ease of handling and transportation

TECHNICAL SPECIFICATIONS

- **MATERIAL OF CONSTRUCTION:** SS304, SS316, CS
- **BELT MATERIAL:** Polyester, PP
- **SCRAPPER TIP:** PP, Teflon, SS304, SS316
- NOTES:
- [1] Performances vary based on sludge characteristics and flocculation
- [2] Optional without any additional footprint
- [3] Dry Air required at 7 bar for instrumentation

MODEL	B10L35	B15L35	B20L35	B25L35
MOTOR POWER	0.75 kW	1.1kW	1.1kW	1.1kW
FLOWRATE [1]	6 - 8 m3/h	8 - 12 m3/h	12 - 18 m3/h	18 - 25 m3/h
FOOT PRINT	1.5m x 3.5m	2.0m x 3.5m	2.5m x 3.5m	3.0m x 3.5m
BELT WIDTH	1m	1.5m	2m	2.5m
HIGH RATE FLOCCULATOR [2]	2.5m3 0.37kW	4m3 0.37kW	6m3 0.55kW	8m3 0.55kW

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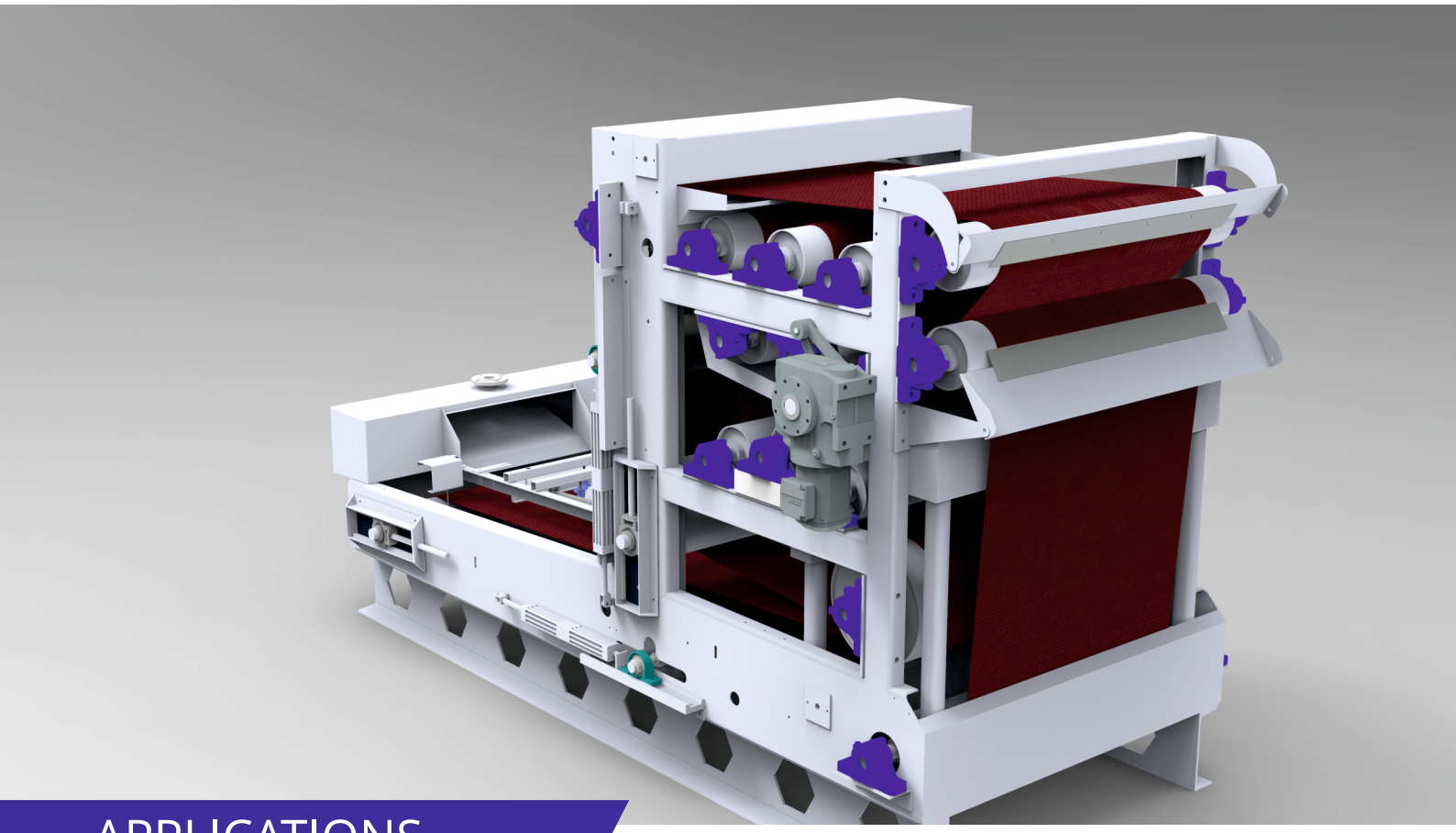

APPLICATIONS

- Sewage Sludge
- Municipal Excess Activated Sludge
- Chemical Industry
- Paper Mill
- Industrial Solid & Liquid Separation Process
- Food Industry Waste
- Metal – Finishing Industry
- Steel & Iron Works
- Dyeing Mill & Paint Factory
- Automobile Industry
- Livestock Farming Wastewater
- Hospital Wastewater

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