



ROTARY FAN PRESS vs SCREW PRESS

Over the years multiple trials on comparisons of dewatering technologies in wastewater treatment facilities have taken place. Dewatering has come a long way, with considerable innovation to the process. This has resulted in changes to the sludge by newer technologies in the wastewater treatment processes, and a reduction in chemical compounds leaving the plants effluent discharge.

Sludge characteristics vary from plant to plant and can contain many unknowns that end up impacting the dewatering results. It has been shown that lower VSS (volatile suspended solids) will result in higher cake solids and lower polymer usage. Also, the higher amount of chemical sludge within the biosolid sludge will reduce the cake solids.

Cake solids are one of the most important factors in determining effectiveness of the dewatering technology use, with capture rate being a close second. The higher the capture rate, the less solids that are returned to be reprocessed through the plant. A 5% higher capture rate can sometimes save operating costs of over 2% higher cake solids. Also, with a higher capture rate polymer usage improves, reducing cost, as well as less polymer being returned to the plant that sometime can affect the plants operation.

The **Rotary Fan Press**® offers many advantages over other technologies. Comparisons to other technologies are in general to their designation as different manufacturers vary in quality.

	Rotary Fan Press	Screw Press
Country of Origin	America 100% BABA Compliant.	Varied. Most Not BABA compliant.
Cake Solids	Higher when compared at same capture rate and hydraulic throughput for rated size equipment.	High cake solids can be achieved however sacrifice capture rate and/or throughput.
Capture Rate	High capture rate >95% - 98% common at rated throughput required.	The capture rate is low, usually <90%, sometimes less than 60%.
Hydraulic Loading	200% more hydraulic capacity per square foot of space requirements without pre-thickening.	Hydraulic capacity is limited due to design and filtration area. Usually supplemented with extra pre-thickening prior to the press.
Polymer Usage	One of the lowest comparable to the same required for a BFP.	Typically, between requirements of a BFP and centrifuge.
Power Consumption	One of the lowest required for mechanical dewatering.	One of the lowest required for mechanical dewatering.
Operation	Automation of adjustments to sludge variations can be accommodated. Able to operate unattended if electronically monitored.	Manual adjustments are required. Cannot be ran totally unattended to maintain total process control.
Partial Operations	For a multi-channel operation, one channel can be removed for maintenance while other channels remain in operation.	Maintenance requires total machine shut down. Usually requires special assistance other than basic maintenance.
Expandability	Multiple channel options when ordered as expandable at time of order without the requirement of purchasing an additional complete system.	Required to purchase an entire new unit for increased capacity.
Space Requirements	Higher throughput with smaller footprint with less than 50% of the space required for the same throughput.	200% Larger footprint, sometimes two stories high, resulting in higher capital investment for new buildings or expansion.
Maintenance Costs	Low speed. Minimal maintenance and wear parts. Lifetime warranty on screens for most applications. Plant personnel can complete all maintenance if desired.	Low speed. Maintenance that can be difficult and often requiring factory support on-site with two people, screens/seals need to be changed out every two to three years depending on manufacture.
Wash Water	No continuous wash water required and can run wash water while processing – not impacting cake solids.	Wash water required periodically for cleaning off the outer casing screen which can impact cake solids.