

# UNLOCKING EFFICIENCY IN SLUDGE DEWATERING

The Multi-Disc Screw Press Solution



ArCh Enviro®



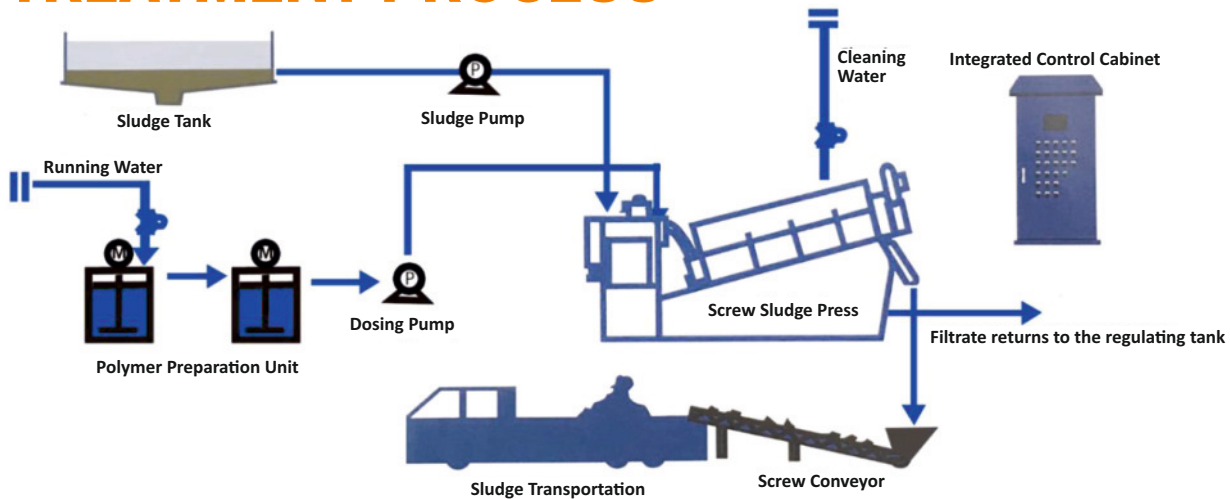
## A COST SAVINGS REVOLUTION IN SLUDGE DEWATERING



# PRODUCT INTRODUCTION

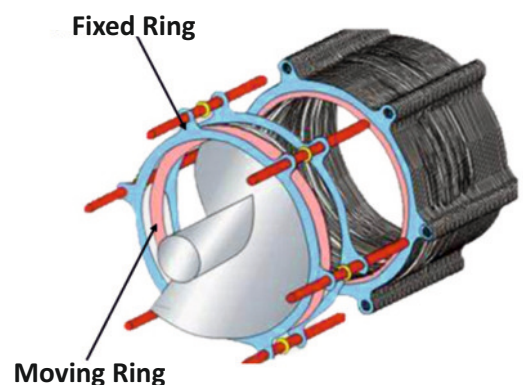
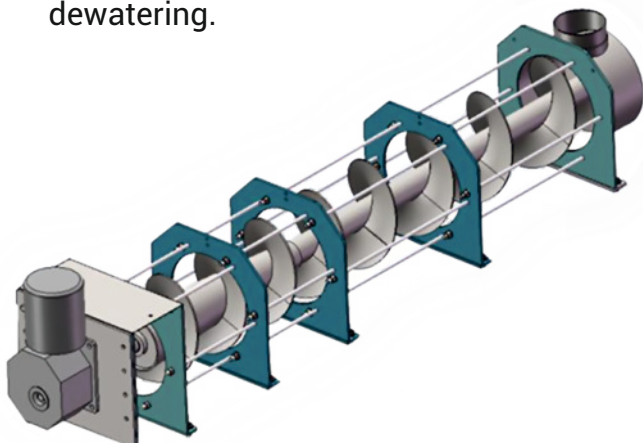
The Screw Press Sludge Dewatering Machine stands as a pinnacle of advanced sludge dewatering equipment globally. In contrast to conventional methods such as the belt filter press and plate and frame filter press, its distinctive mechanical design offers numerous benefits. These include a compact footprint, prevention of clogging, fully automatic unattended operation, eliminating the need for sedimentation tanks and sludge thickening tanks. Moreover, its enclosed design significantly enhances the on-site operational environment.

## TREATMENT PROCESS



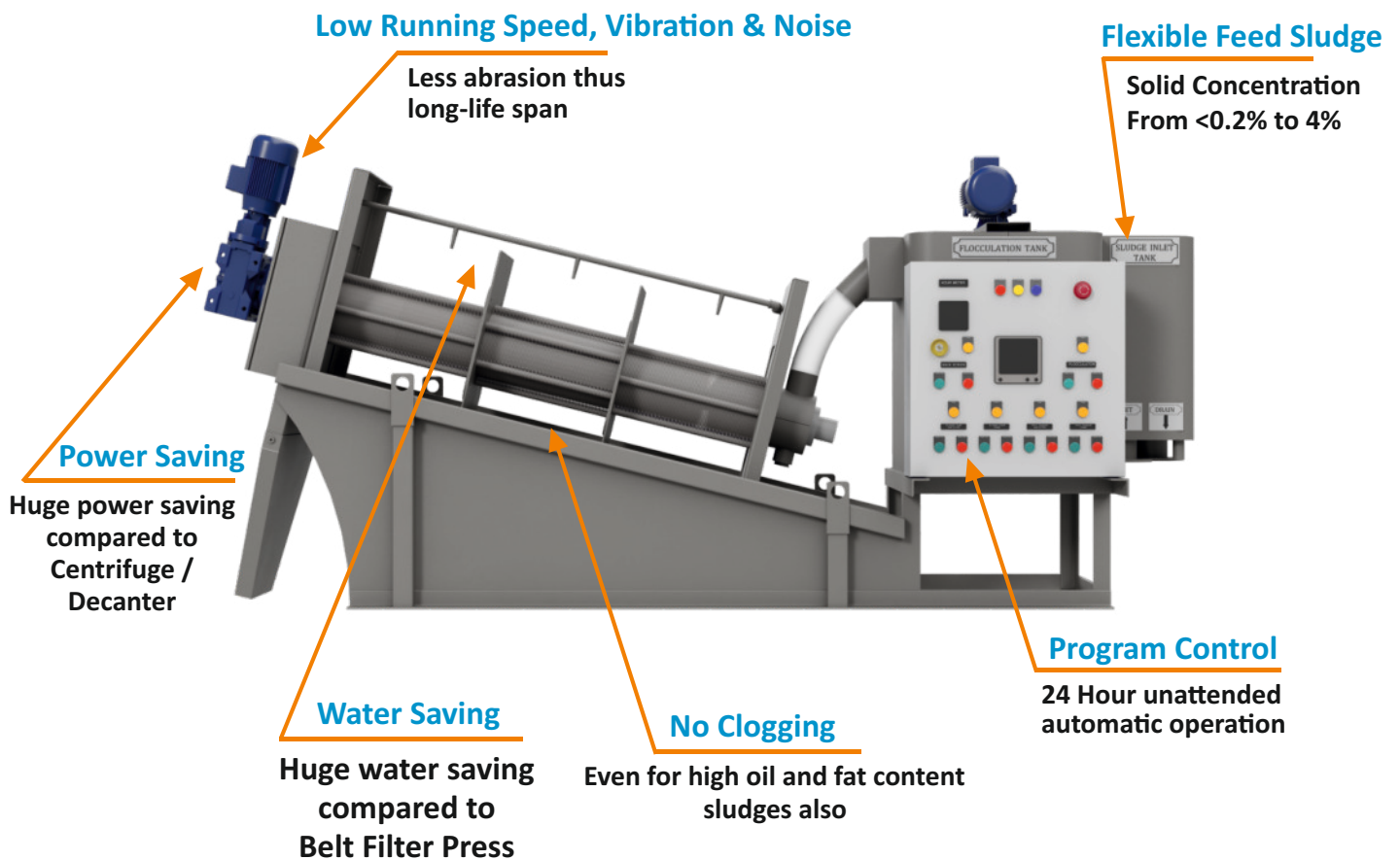
## WORKING PRINCIPLE

1. The core of the Screw Press Sludge Dewatering Machine consists of a filtration unit comprising fixed and moving rings, threaded through by the screw axis. The front section serves for concentration, while the rear section excels in dewatering.
2. The filtration gap between the fixed ring and the moving ring of the dewatering screw press narrows gradually along the pitch of the screw axis, transitioning from a wider gap in the concentration section to a tighter gap in the dewatering section.
3. The rotation of the screw press shaft serves a dual purpose: firstly, it propels the sludge from the concentration section to the dewatering section, and secondly, it constantly drives the moving ring to clean the filtering gap, preventing any risk of clogging.
4. Following gravity concentration in the dedicated section, the sludge is conveyed to the dewatering section. As it progresses, the filtering gap and screw pitch gradually decrease, and the back pressure plate plays a vital role in generating substantial internal pressure. This pressure causes a continuous reduction in volume, effectively achieving thorough dewatering.



# TECHNOLOGY COMPARISION

Features	Screw Press	Filter Press	Belt Press	Centrifuge
Dewatering of Low Concentration Sludge	Yes	No	No	No
Pre-thickening	Not required	Required	Required	Required
Power requirements	Low	Low	High	Extremely High
Footprint	Small	Large	Large	Small
Wash Water Consumption	Low	High	Extremely High	High
Noise Generation	Extremely Low	Low	High	High
Maintenance requirements	Low	High	High	High
24 Hours operation	Yes	No	Yes	Yes
Labour Intensity	Extremely Low	Extremely High	High	High
Operation Cost	Low	High	High	Extremely High



# PRODUCT MANUFACTURING



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