

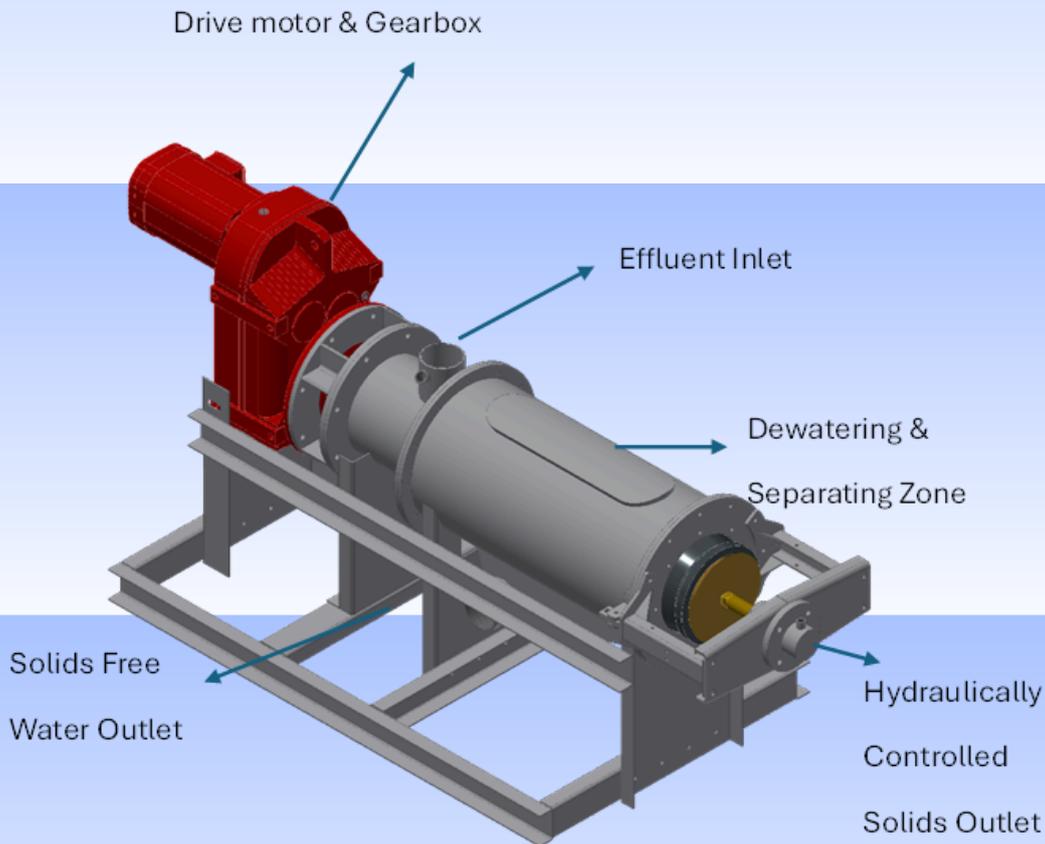


# VORTEX DYNAMICS

“EMPOWERING ENGINEERING EXCELLENCE THROUGH INSIGHT AND INNOVATION”

## HYDROPRESS

The Vortex Hydropress is a next-generation mechanical dewatering system designed for efficient liquid-solid separation. With growing demand for sustainable sludge management, the Hydropress offers a low-energy, low-maintenance, and scalable solution. This document outlines its engineering strengths, operational advantages, and broad market potential.



### What is the Vortex Hydropress?

The Hydropress is a continuous screw press that extracts water from sludge and slurry using a slow-rotating screw within a stainless-steel cylindrical screen. As pressure increases, water is forced out, producing a drier solid “cake.”

Performance highlights:

- Achieves up to 25% dry solids
- Uses 50% less water than conventional systems
- Operates continuously and unattended

The system combines precision engineering, adaptability to diverse sludge types, and long-term reliability.



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## This process delivers:

- Higher dryness rates (up to 25% dry solids).
- Lower operating costs (50% less water usage than conventional systems).
- Continuous, unattended operation.

The Hydropress distinguishes itself through engineering precision, adaptability to a wide range of sludge types, and resilience in demanding environments.

## Key Engineering Features

- Rotational Screw Compression: Gradual pressure zones for maximum dewatering.
- Cylindrical Filtration Screen: Durable stainless-steel mesh resists clogging.
- Counter-Pressure System: Maintains consistent dryness output.
- Integrated Wash System: Automatic cleaning reduces downtime.
- Compact, Enclosed Design: Minimizes odour, noise, and environmental impact.

## Performance Benefits

- 24/7 Operation with minimal supervision.
- Low Energy Use compared to belt presses and centrifuges.
- Reduced Water Consumption during cleaning.
- Lower Disposal Costs through reduced sludge weight and volume.
- Cleaner, Quieter Operation in enclosed housing.

## Applications

### Municipal Wastewater:

- Dewateres primary and secondary sludge.
- Reduces load on digesters and drying beds.

### Industrial Processing:

- Ideal for pulp & paper, mining, plastics, and chemicals.
- Cuts waste and recovers process water.

### Food & Beverage:

- Effective in juice, vegetable, and dairy processing.
- Enables water reuse and easier sludge handling.

### Agriculture & Animal Waste:

- Dewateres manure and slurry.
- Supports nutrient recovery and composting.

## Before and After Comparison

Metric	Before Hydropress	After Hydropress
Water Content	95%–99.5%	75%–80%
Solids Content	Very Low	Up to 25% Dry Matter
Volume	High	Reduced by up to 70%
Handling	Difficult	Easily Transportable
Disposal Cost	High	Significantly Lower



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## Market Context & Competitive Advantage

- Growing global pressure to reduce sludge disposal costs and carbon footprint.
- Stricter regulations around water discharge and waste handling.
- Operational ROI through reduced transport, disposal, and maintenance costs.

## Compared to belt presses and centrifuges, the Hydropress offers:

- Lower total cost of ownership.
- Reduced footprint.
- Better handling of fibrous, oily, or high-fat content sludge.

## Strategic Value for Investors

- Scalable product with applications across multiple high-demand industries.
- Low overhead and consumables.
- High replacement potential in aging municipal systems.
- Sustainable technology aligned with ESG goals.

The Hydropress is not just a machine, it's a strategic asset for modern waste management infrastructure.

With the Vortex Hydropress, operators gain a dependable, efficient, and environmentally responsible solution to a growing industrial challenge. For investors, it represents an opportunity to back a technology that is not only commercially viable, but essential to the future of sustainable industry.

## GET IN TOUCH TODAY:

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