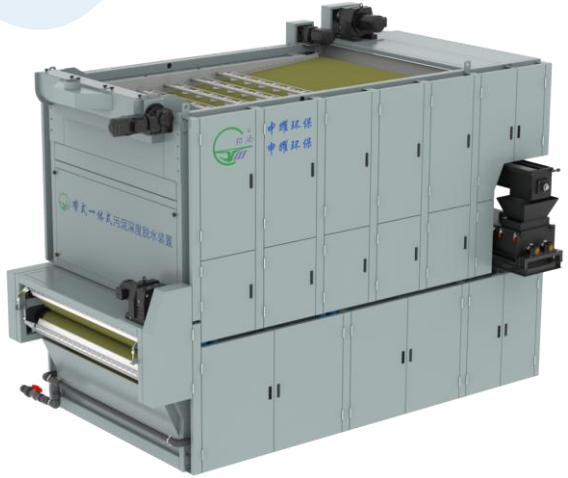
Innovative Solutions

High-Pressure Belt Filter Press



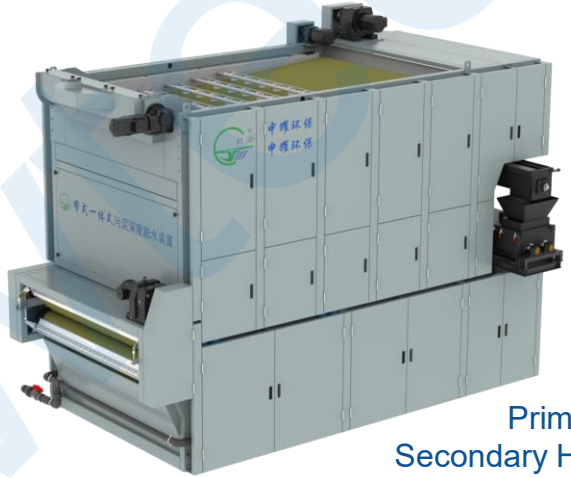
Newtec Umwelttechnik GmbH
www.newtec-berlin.de

Applications

Multiple models available for dewatering:

- Municipal wastewater treatment sludge
- Industrial wastewater treatment sludge
- Waterworks sludge
- Agricultrual solid waste
- Animal manure
- Hazardous solid waste

Thickening + Primary Belt Filter Press + Secondary High Pressure Belt Filter Press



Thickening +
Primary Belt Filter Press +
Secondary High Pressure Belt Filter Press

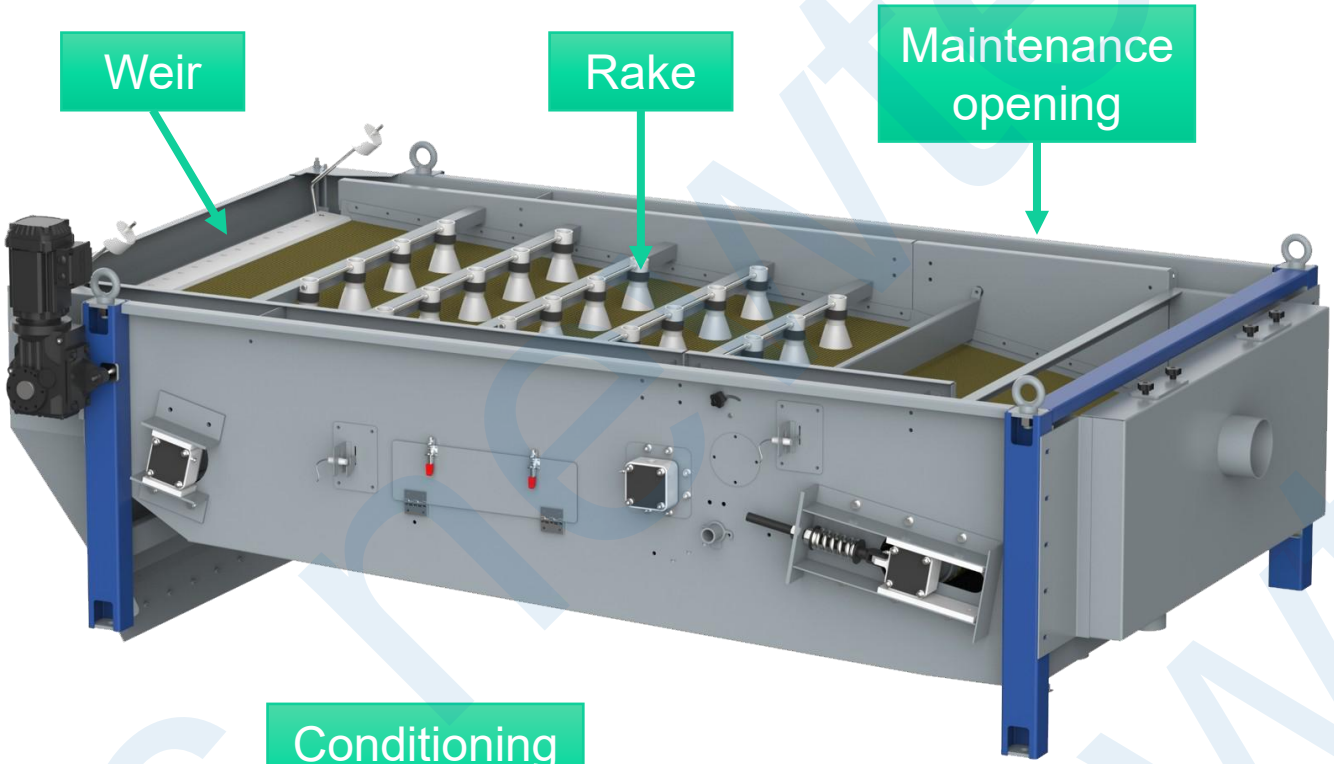
Ultra-High Pressure
Belt Filter Press

Thickening, primary and secondary dewatering

High-pressure belt filter press can be used alone, or as a secondary dewatering equipment, with thickening and primary dewatering equipment into an integrated equipment.

Process	Methods and results	
Thickening	Thickening of sludge with a solids content of 0.5-2% to a solids content of 4-8%.	
Primary dewatering	Increase the dryness of thickened sludge to approximately 20% using a **screw press dewaterer** or **belt filter press**.	
Secondary dewatering	Increase the dryness of primarily dewatered sludge to 30-45% using a **high-pressure belt filter press**.	

Thickener



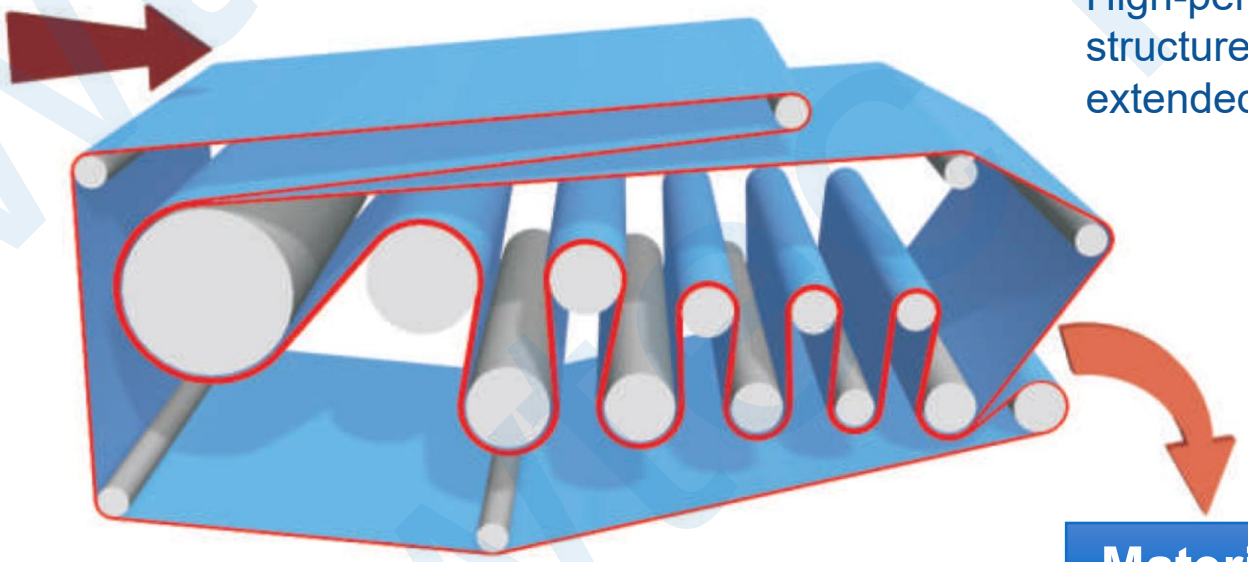
Thickening +
Primary Belt Filter Press +
Secondary High Pressure Belt Filter Press

- Multiple types of headboxes
- Large maintenance opening
- Adjustable material rake
- Weir with adjustable height
- Sludge conditioning tank with variable frequency control

Primary belt filter press

- An extended wedge zone for the transition from the gravity thickening to the filter-pressing, gradually forming a cake-like sludge.
- A large wrap angle for the first main pressure roller, making the sludge cake stay in the low-pressure zone for an extended period, thereby helping to form a Sturdy and non-friable sludge cake.

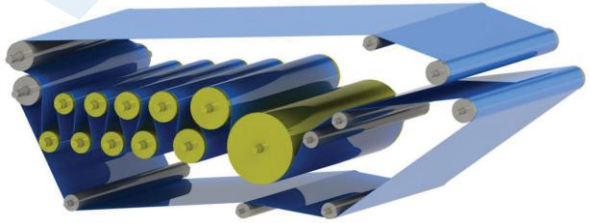
Material
4-8% DS



High-performance structure with an extended wedge

Material
15-20% DS

Some structure addopted by other manufacturers

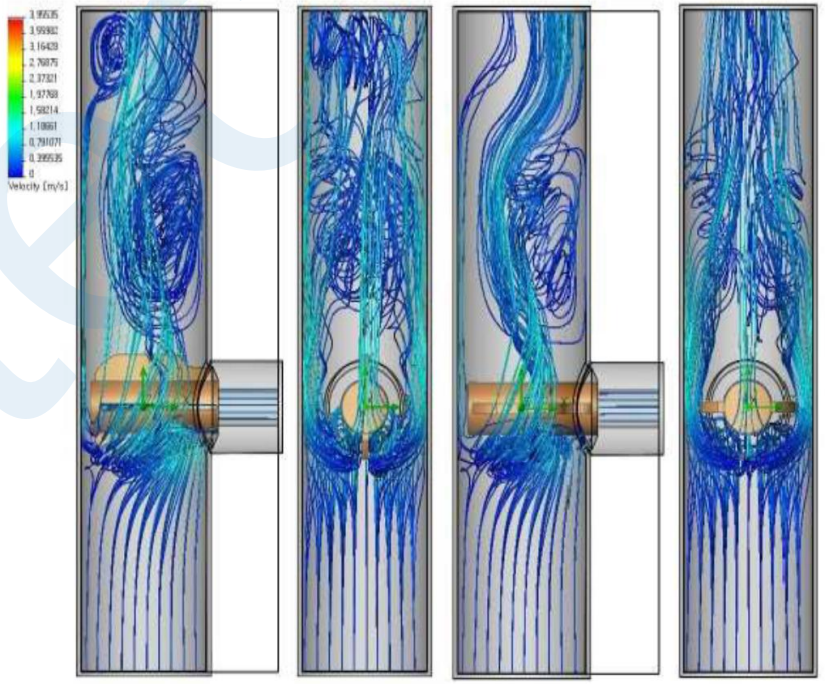


High efficiency mixer

- Rapid and complete mixing of sludge and flocculant in a very short tube
- Saving 10-30% of chemicals to achieve the same flocculation effect

Results without a mixer

Results with a mixer



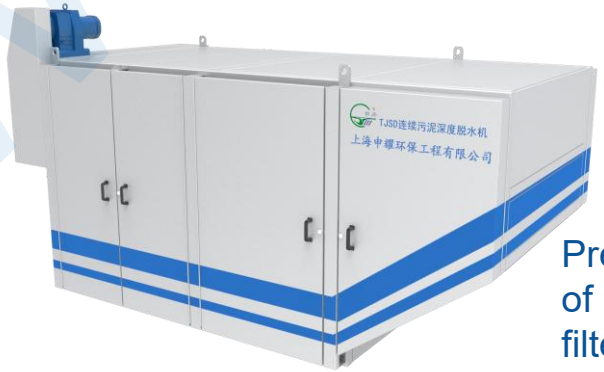
Flow analysis

High-pressure belt filter press for secondary dewatering

High-pressure belt filter press

Ultra-high pressure belt filter press

Water-saving high-pressure belt filter press



Previous generation of high-pressure belt filter press

Technical characteristics

For all High-pressure Belt Filter Press

- Consistent tension of the upper and lower filter cloths and consistent service lives.
- Low inlet and high outlet, facilitating connection with upstream and downstream equipment.
- Three-axis material distribution system enables uniform distribution of various materials.
- An optional forced material distributor is available, suitable for thin and sticky sludge, which can effectively distribute sludge evenly on the filter cloth.
- A built-in pneumatic valve box, making on-site installation and commissioning convenient.
- A professional-grade high-pressure belt filter press is optional, suitable for large processing capacity or relatively sticky sludge.

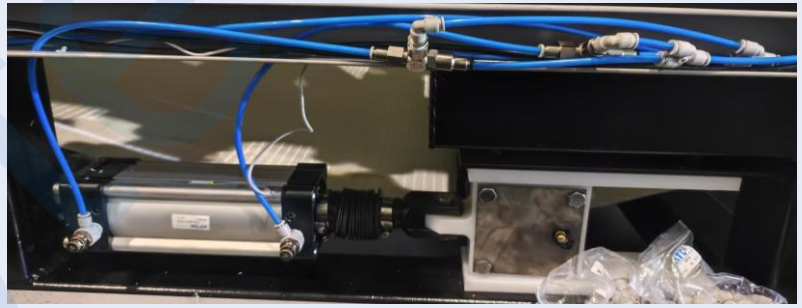
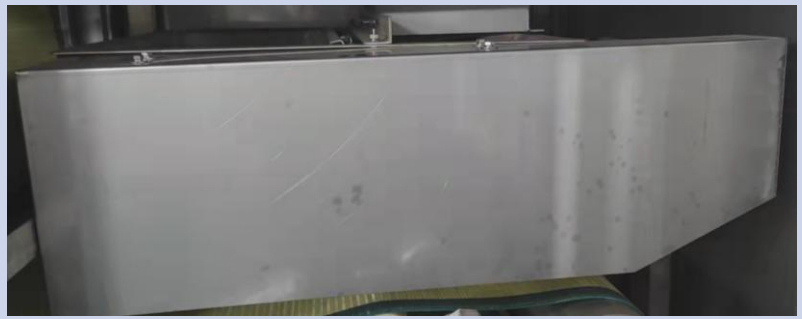
For Ultra-high Pressure Belt Filter Press

- Innovative design of roller that eliminates the need for bearing housings, resulting in a compact space footprint.
- The ultra-high filter cloth tension increase the output solid content by 3~5%.
- Only two specifications of belt width are available: 750 mm and 1000 mm.

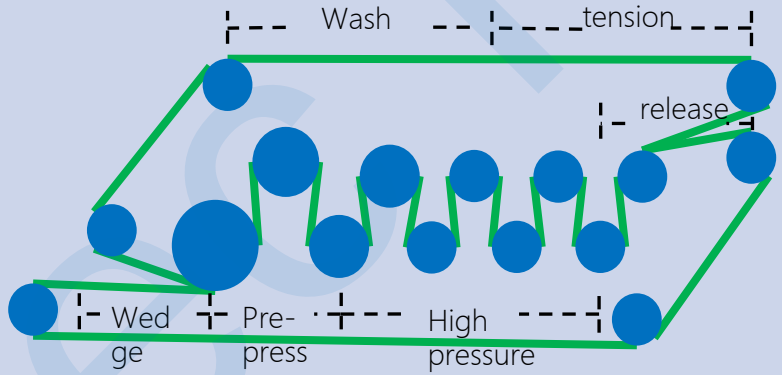
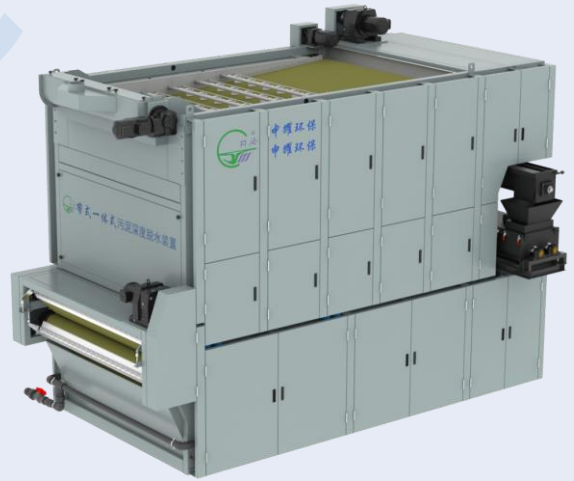
For Water-saving High-pressure Belt Filter Press

- Adopting water-saving device, the flushing water savings can reach up to 70%.
- Particularly suitable for centralized sludge treatment projects, effectively reducing the sewage treatment load.

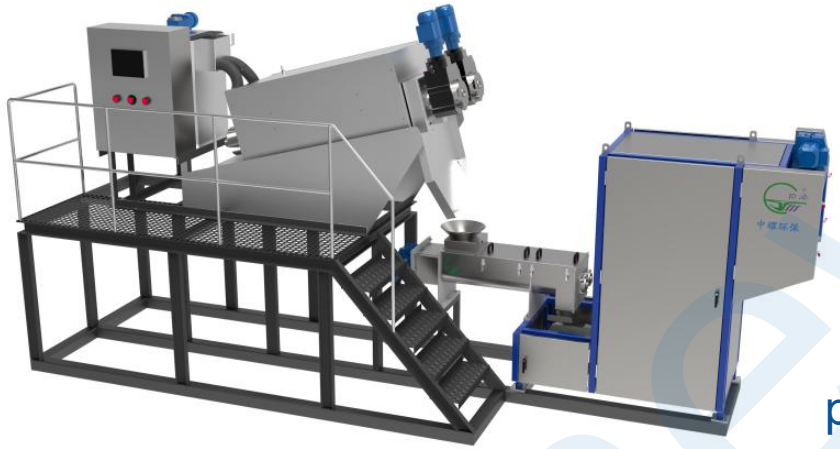
Innovative solutions

NO.	Issues	Solutions	
1	Asynchronous filter cloth tensioning	Pendulum-type forced synchronous tensioning or synchronous rack-and-pinion forced tensioning is adopted.	
2	Frequent deviation correction	An intermediate stop-type deviation correction system is used to fundamentally avoid frequent cylinder movements.	
3	Poor sludge distribution effect	Different sludge distribution systems are adopted according to different sludge properties.	

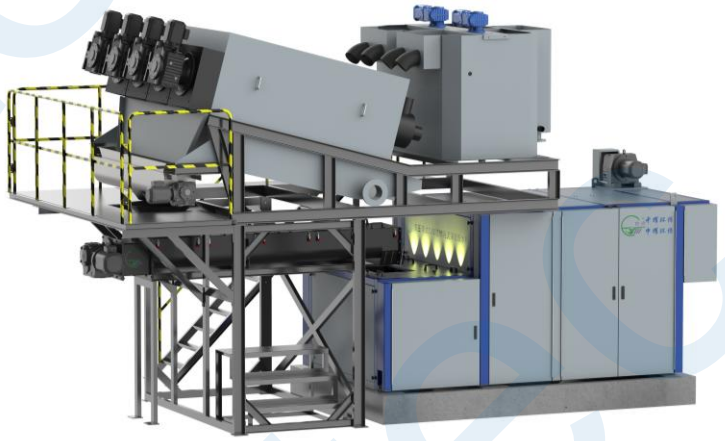
Innovative solutions

NO.	Issues	Solutions	
4	High moisture content of discharged sludge	The roller design and arrangement are improved to reach the limit of filter-pressing dehydratio.	
5	Odor affecting the environment	A fully enclosed design is adopted, which is conducive to odor collection and treatment.	

Integrated equipment for multi-process combinations

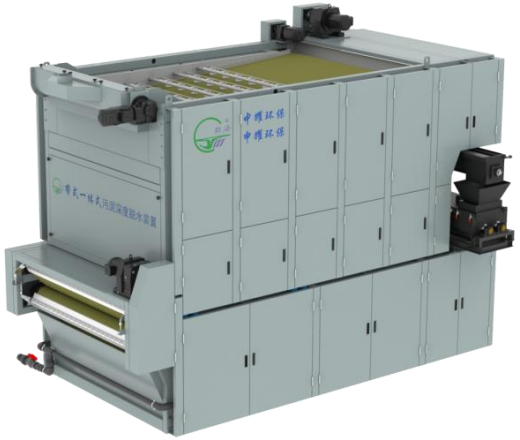


Skid-mounted packages



Thickening + Screw Filter Dewaterer + Secondary High Pressure Belt Filter Press

Thickening + Primary Belt Filter Press + Secondary High Pressure Belt Filter Press



Excellent production and quality control

Workshop in Qidong city

Fact - WWTP in Jiangsu province

Project

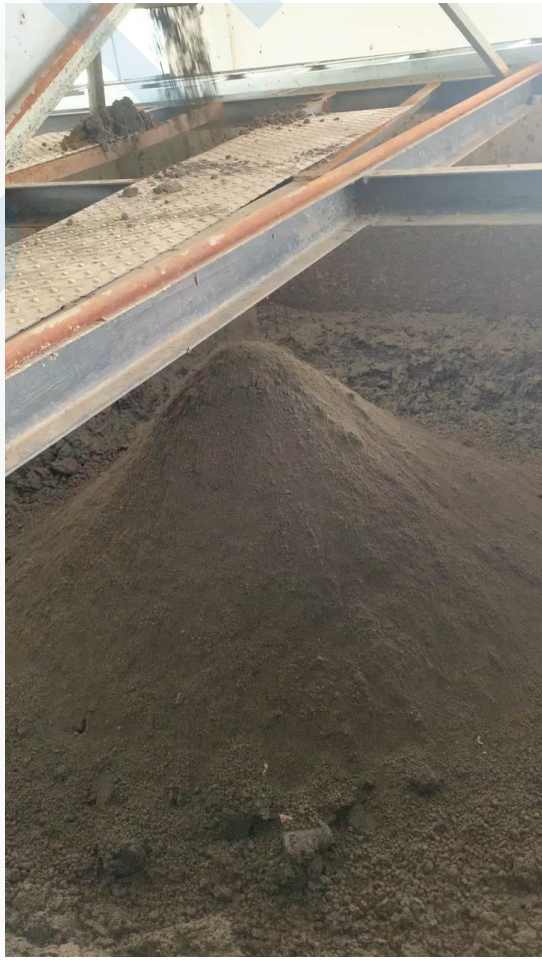
Capacity: 20 t DS/d

Commissioning year: 2024

Dry substance

Input: 15-20%

Output: >= 35%



Fact - WWTP in Shandong province

Project

Capacity: 8 t DS/d

Commissioning year: 2023

Dry substance

Input: 2%

Output: >= 35%

Fact - WWTP in Shanxi province

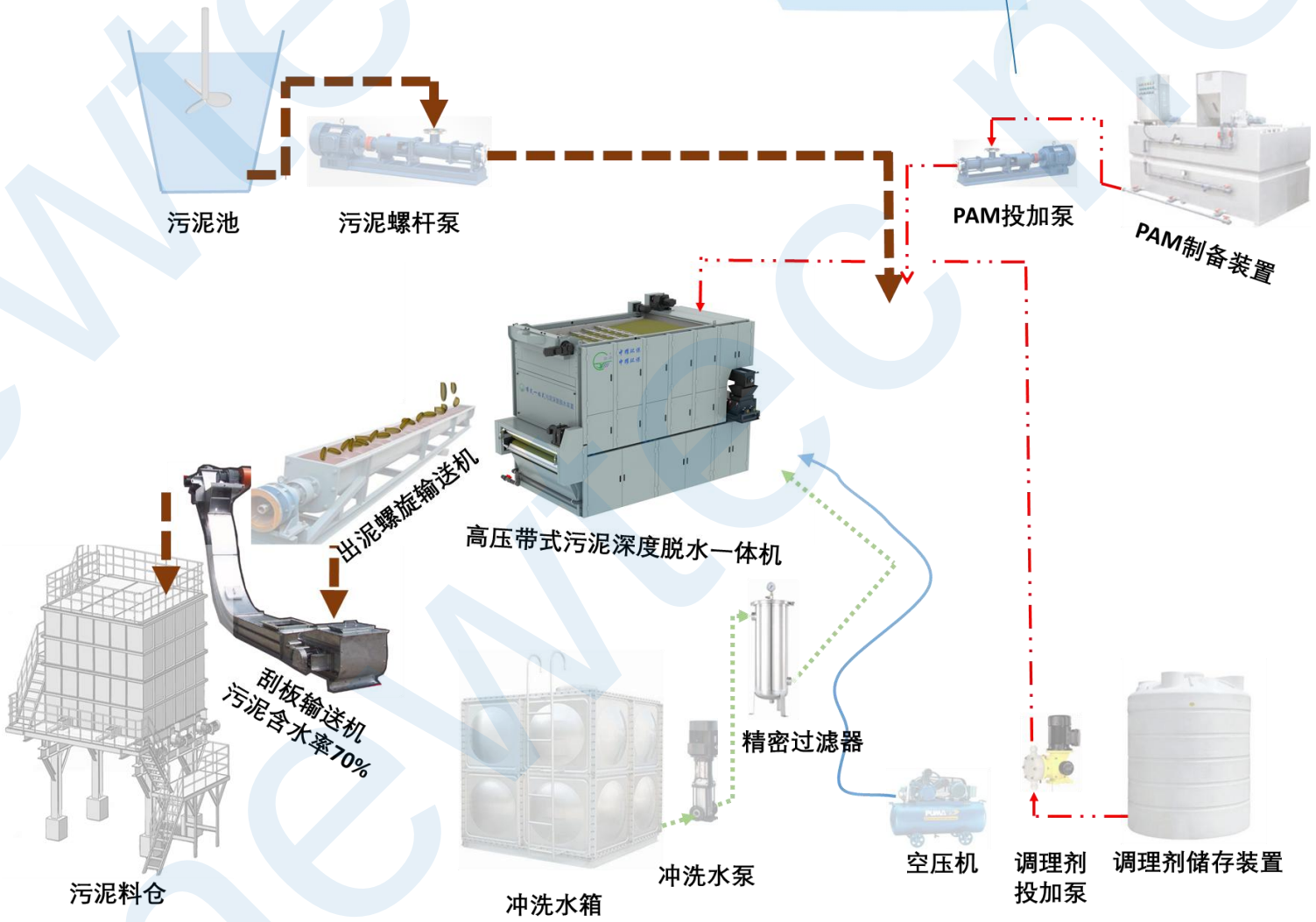
Project

Capacity: 20 t DS/d

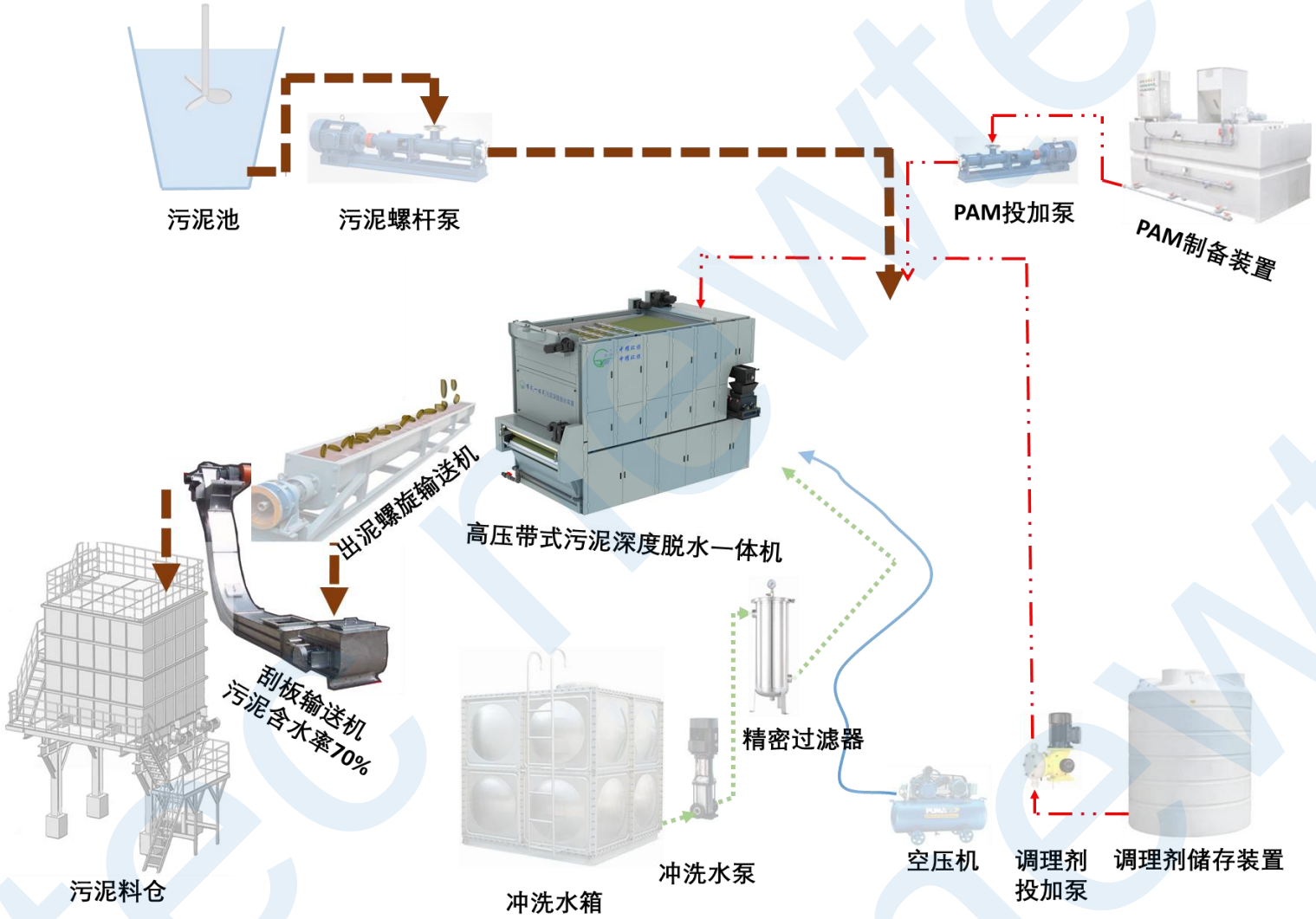
Dry substance

Input: 0.8%

Output: 40%



Fact - WWTP in Shandong province



Project

Capacity: 5 t DS/d

Dry substance

Input: 2%

Output: 30-35%

Fact - WWTP in Hebei province

Project

Capacity: 23 t DS/d

Commissioning year: 2023

Dry substance

Input: 15%

Output: 40%

Fact - WWTP in Yulin city

Project

Capacity: 16 t DS/d

Dry substance

Input: 0.6%

Output: >= 40%

Fact - WWTP in Qishan City

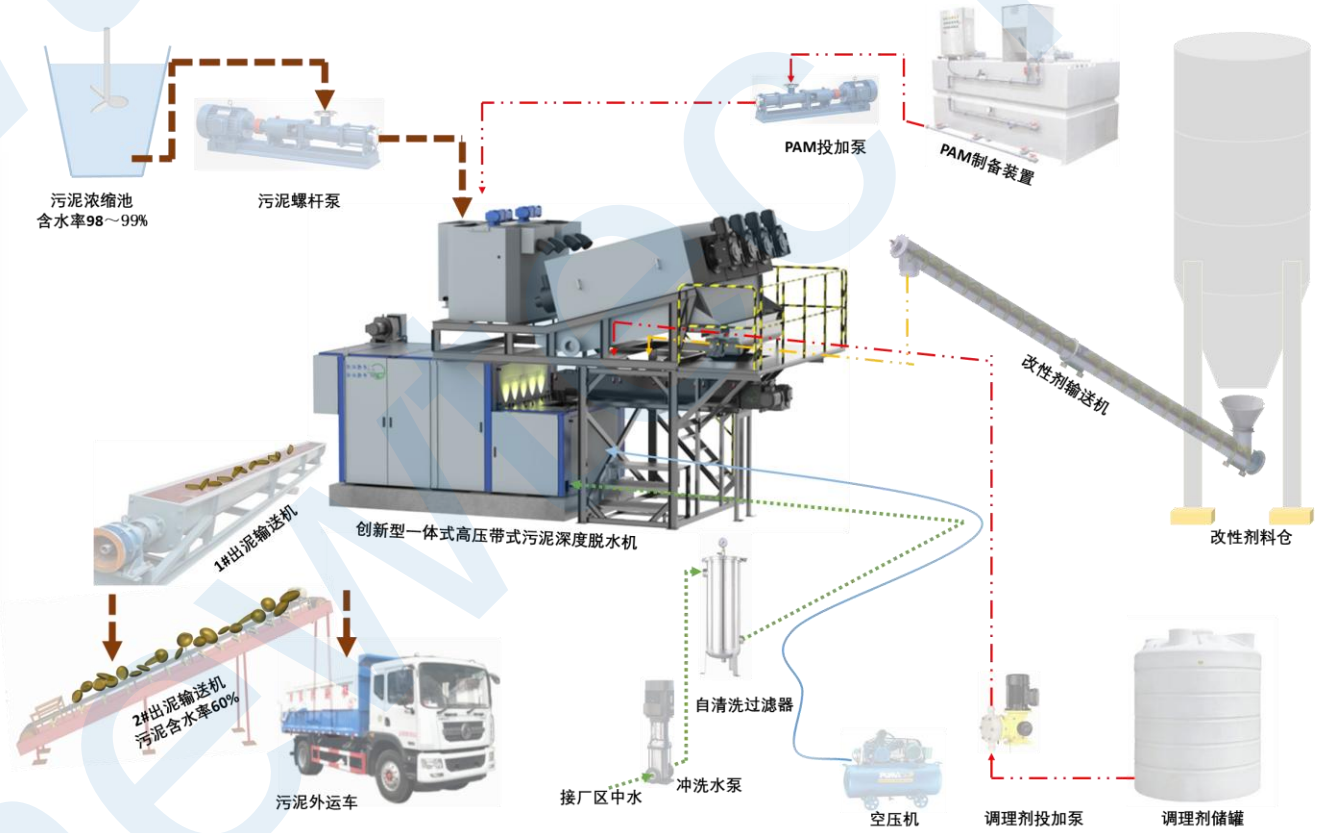
Project

Capacity: 40 t DS/d

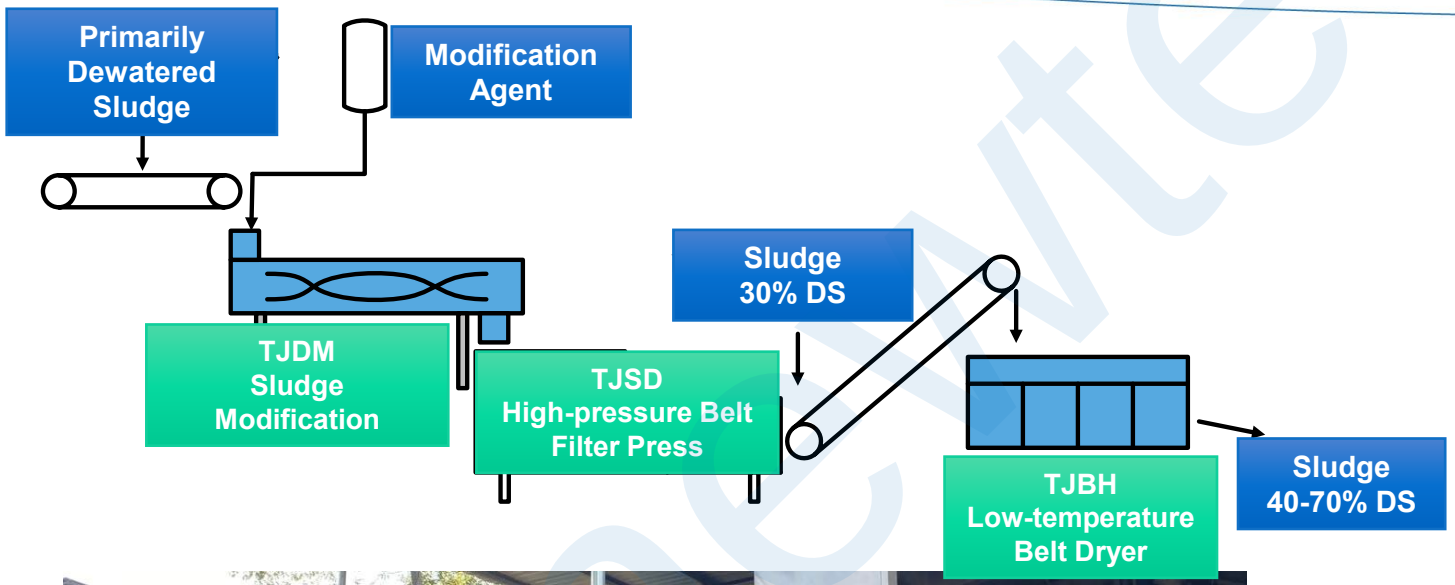
Dry substance

Input: 1%

Output: >= 40%

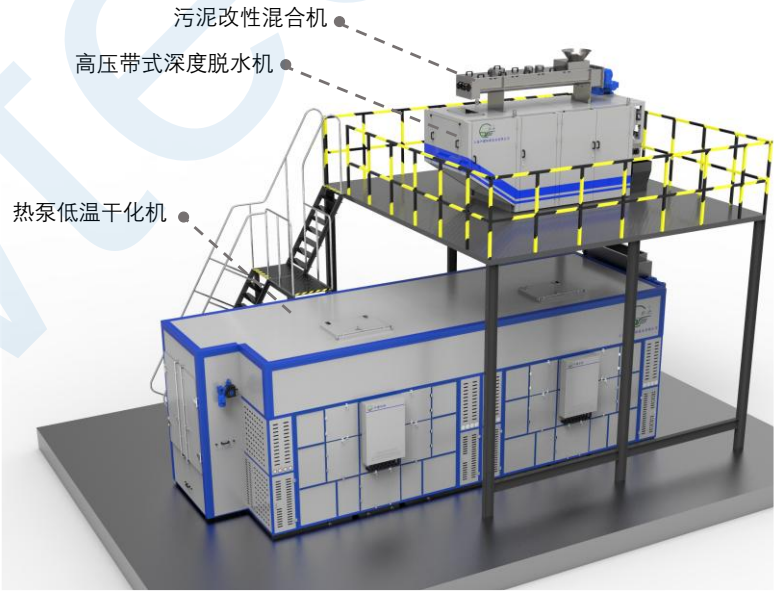


Fact - WWTP in Shanghai city



The First Case In China

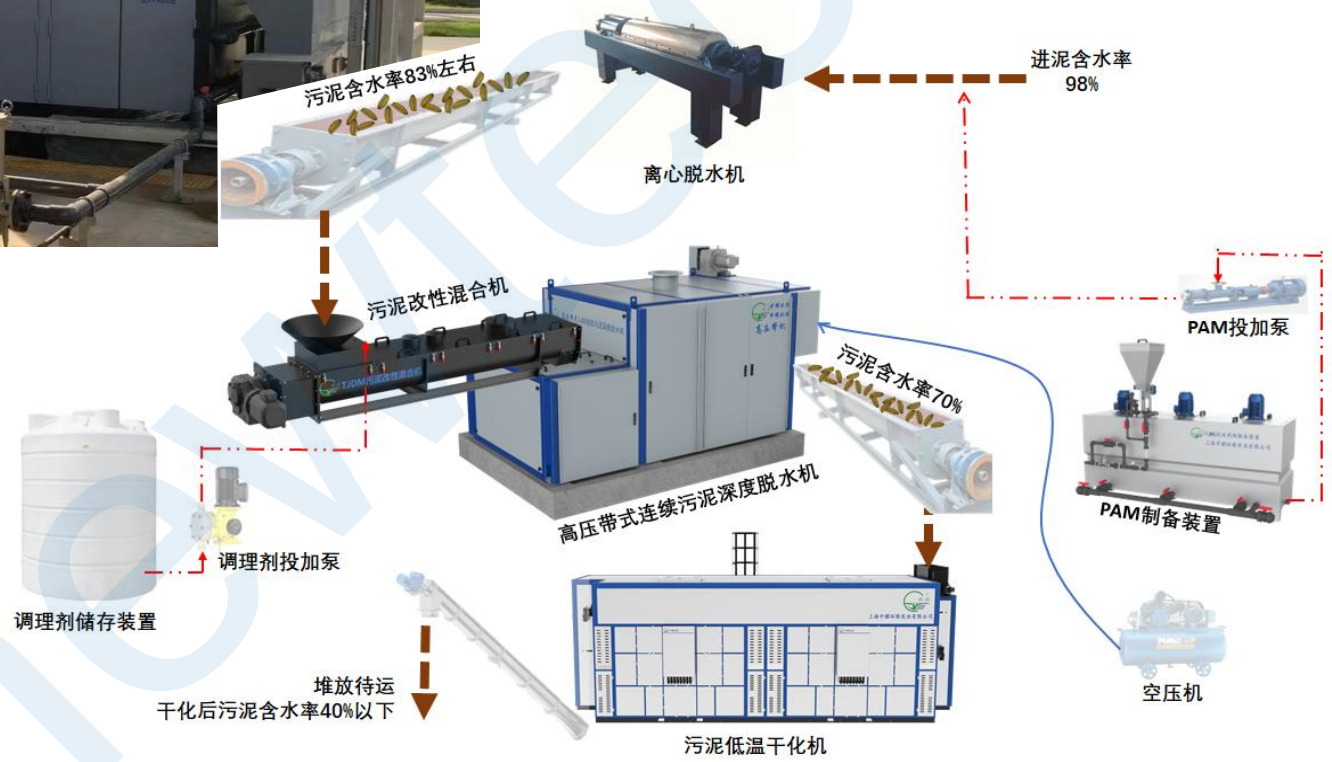
High-pressure Belt Filter Press Combined With **Low-temperature Belt Dryer**



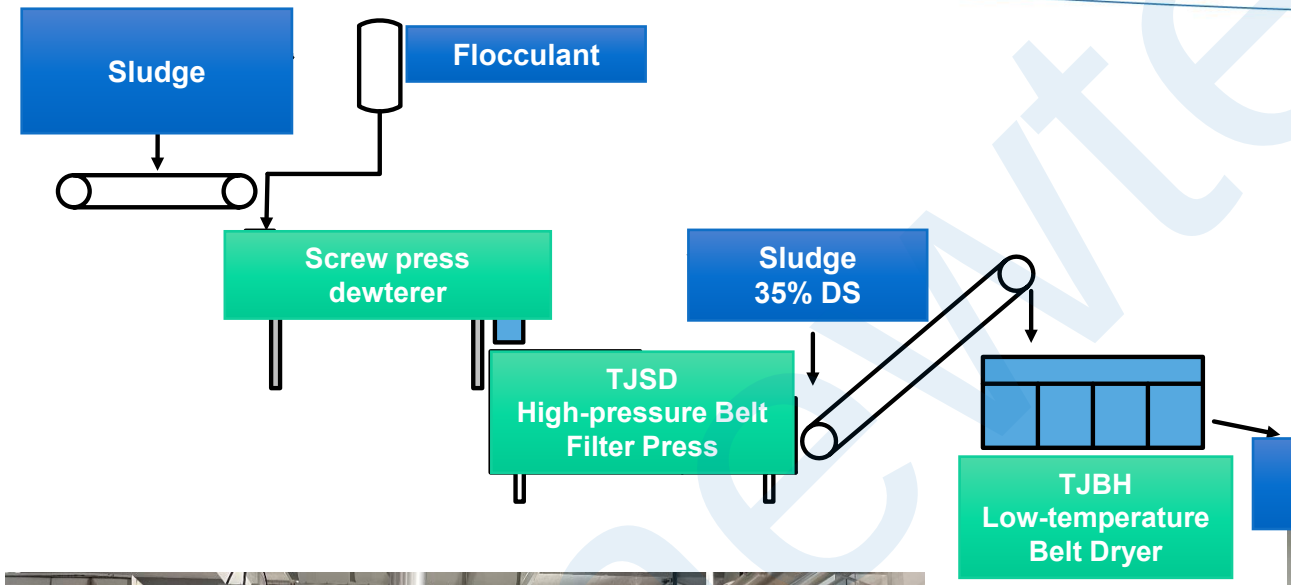
Fact - WWTP in Huizhou City

High-pressure Belt Filter Press Combined With **Low-temperature Belt Dryer**

Capacity: 12 t DS/d

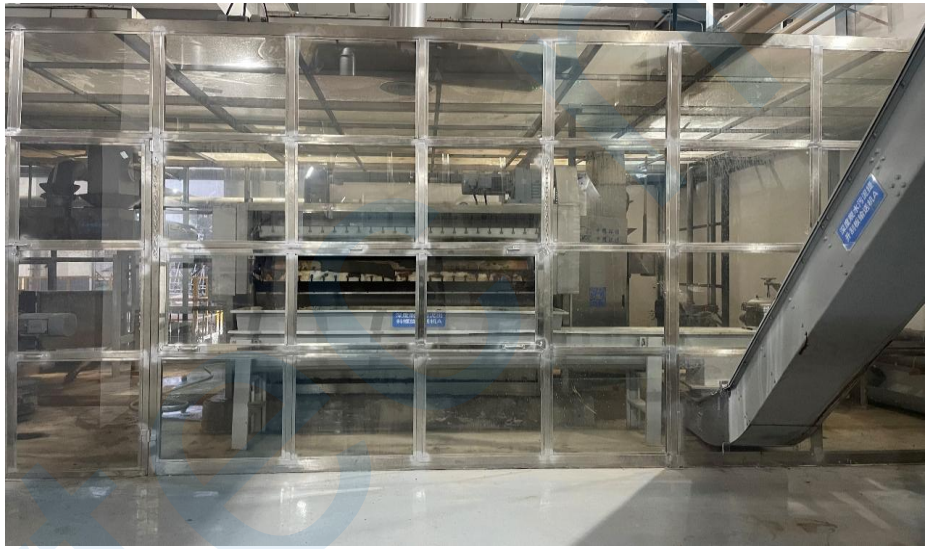


Fact - WWTP in Ganzhou city



High-pressure Belt Filter Press Combined With **Low-temperature Belt Dryer**

Capacity: 24 t DS/d

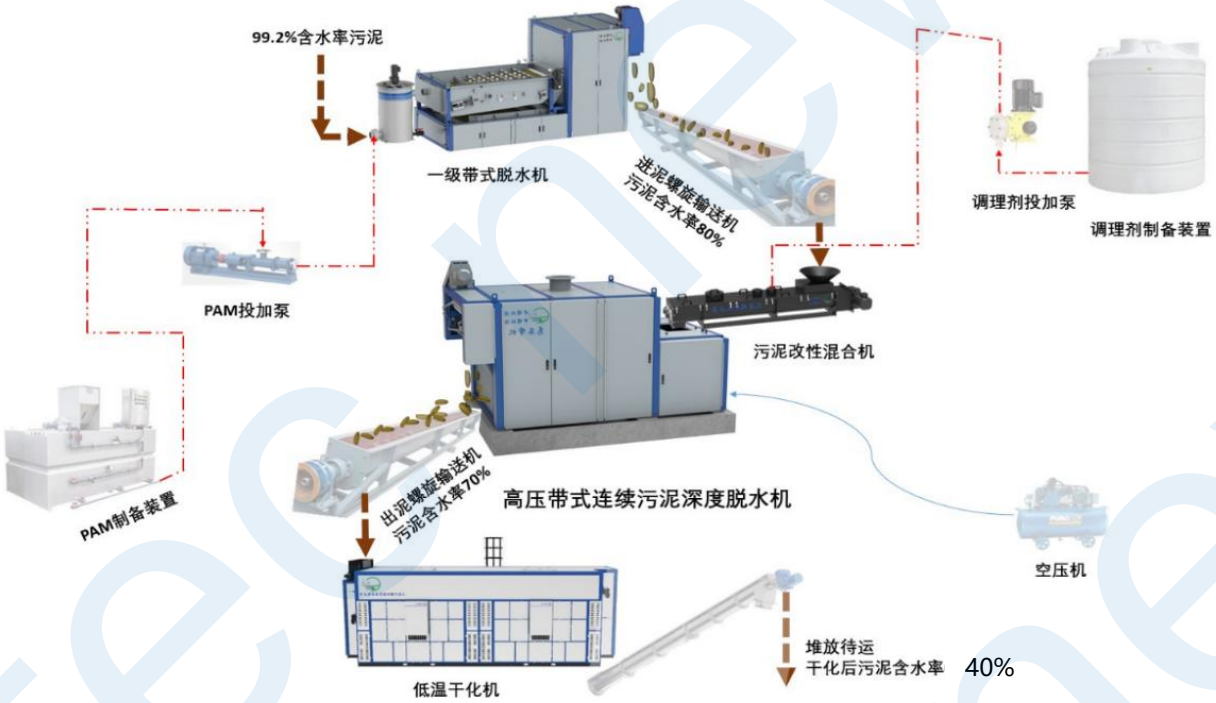


Fact - WWTP in Jiansu Province

High-pressure Belt Filter Press Combined With **Low-temperature Belt Dryer**

Capacity: 7 t DS/d

Output: >=60% DS

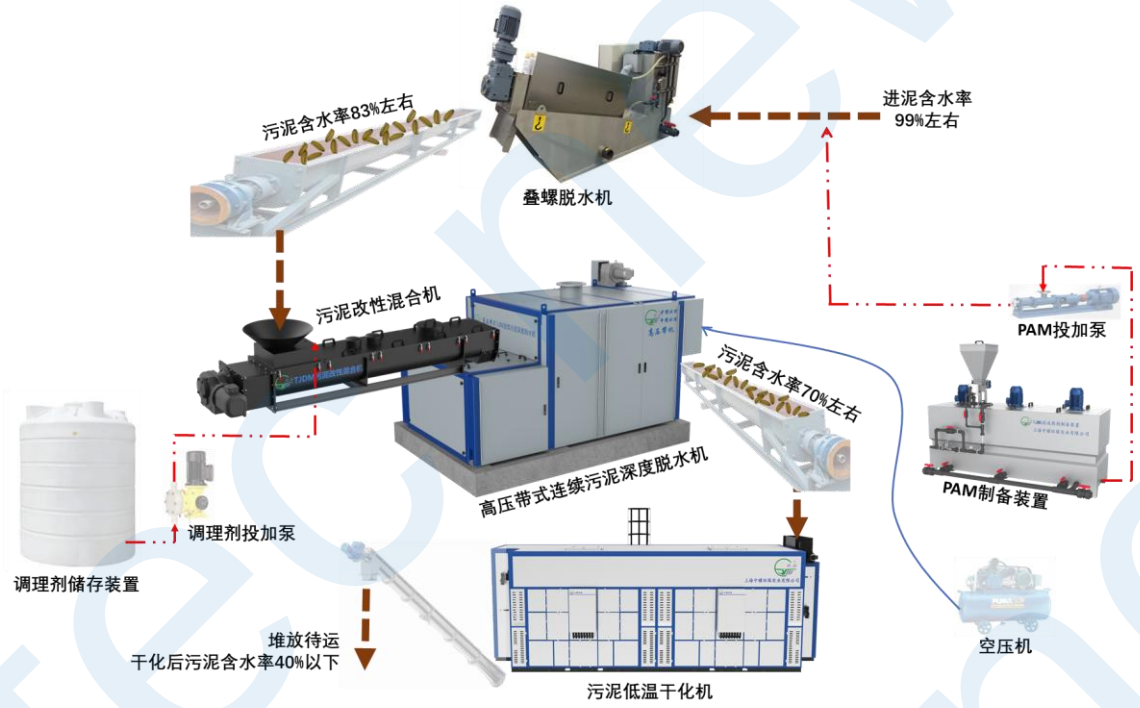


Fact - WWTP in Shandong Province

High-pressure Belt Filter Press Combined With **Low-temperature Belt Dryer**

Water treatment capacity: 21,000 m³ DS/d

Sludge treatment output: >=60% DS



Fact – Water Plant in Shanghai City

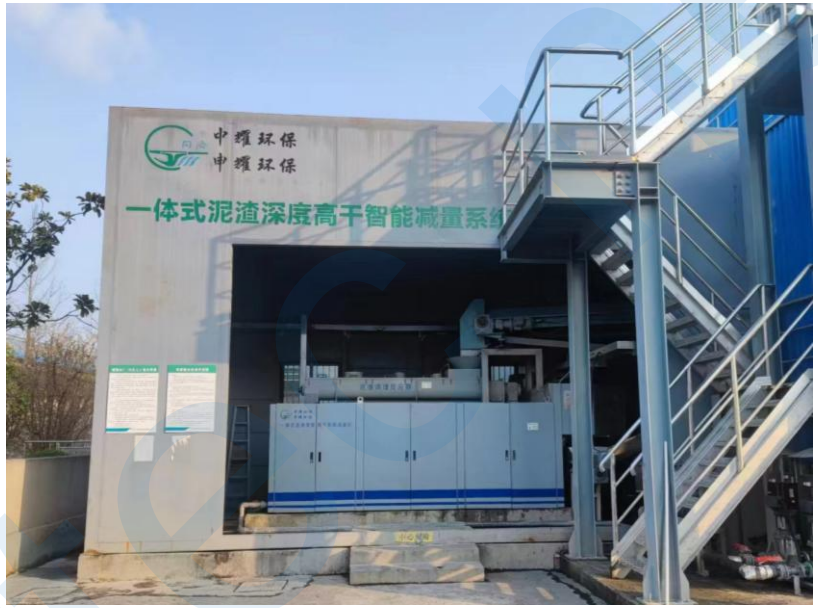
Water treatment

Capacity: 200,000 m³/d

Sludge treatment

Capacity: 5 t DS/d

Output: 45% DS



Fact – Water Plant in Shanghai City

Water treatment

Capacity: 1,400,000 m³/d

Sludge treatment

Capacity: 40-54 t DS/d

Output: 35-45% DS

Fact – Water Plant in Hunan province

Water treatment

Capacity: 80,000 m³/d

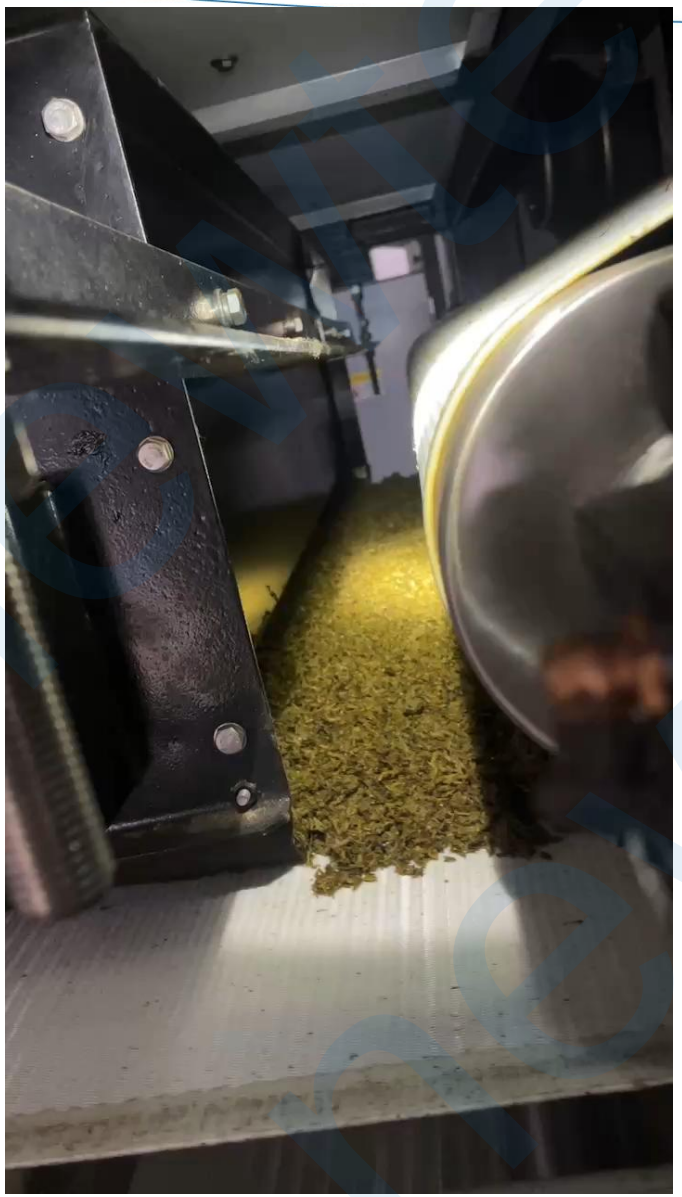
Sludge treatment

Capacity: 10 t DS/d

Output: 40% DS

Fact – Agricultural and animal solid waste

Fact – Agricultural and animal solid waste



Fact – Agricultural and animal solid waste

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Thank You

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