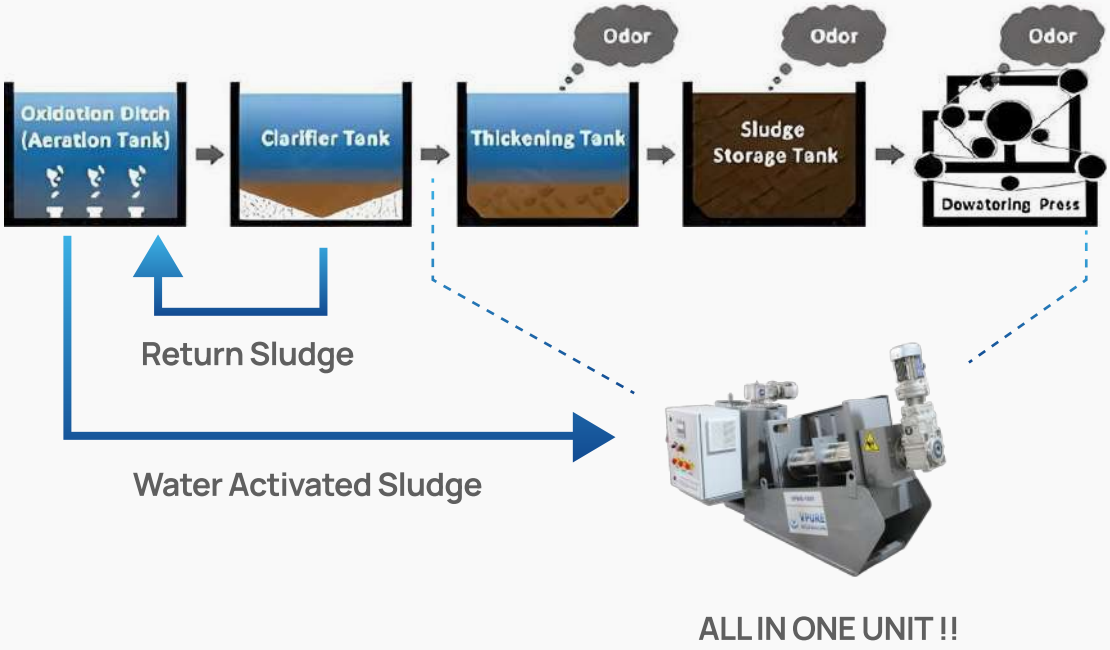
Vpure Water Solutions

VPURE
WATER SOLUTIONS

VPURE Screw Press (Volute Press)

Vpure Screw Dehydrator belongs to the screw press, it's clog-free and can reduce the sedimentation tank and sludge thickening tank, saving the cost of sewage plant construction. VSD using screw and the moving rings to clean itself as clog- free structure, and controlled by the PLC automatically, it's a new technology that can replace the traditional filter press like belt press and frame press, the screw speed is very low, so it cost low power and water consumption in contrast to the centrifuge, it is a cutting edge sludge dewatering machine.

Items	Vpure Screw Press	Frame Filter Press	Belt Press	Centrifuge
Dewatering of low and high concentrated sludge	✓	✗	✗	✗
No need thickener	✓	✗	✗	✗
24 hour automatic operation	✓	✗	✗	✗
Occupied space	↓ Low	↑ High	↑ High	↑ High
Energy Consumption	↓ Low	↑ High	↑ High	↑ Very High
Labor intensity	↓ Low	↑ High	↑ High	↓ Low
Noise & Vibration	↓ Low	↑ High	↑ High	↑ High
Maintenance Cost	↓ Low	↑ High	↑ High	↑ High
Running Cost	↓ Low	↑ High	↑ High	↑ High
Wash Water Consumption	↓ Low	↑ High	↑ High	↑ High

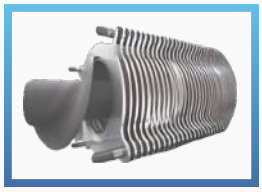


ALL IN ONE UNIT !!

Clog Free

Due to rotation of helical axis, the moving rings begin detaching from the fixed rings while continuously starting the self cleaning process. As a result, the Present clogging is avoided. Therefore, it can handle oily sludge without any trouble while separating the water from the sludge easily. In addition, there is no need to add large quantity of flushing water and there is no smell and no secondary pollution during the dewatering process

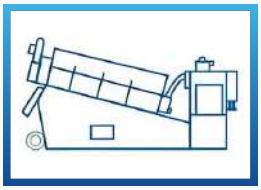
Fixed plates and moving plates replace the filter cloth



- Self-cleaning
- Clog-free construction
- Handle oily sludge without trouble

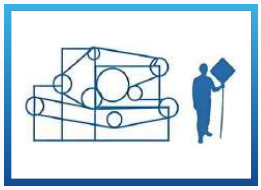
Fully Automatic Control

There are no easily blocked pieces such as belt and Iteration pore in VPURE SCREW DEHYDRATOR. Combining with the auto control system, the machine runs very safely and simply and can be programmed according to the requirement of the users. It can operate automatically for 24 hours, unmanned.



24-hour

Unattended Operation



Operate Manually

Why Sludge Treatment?

Enviromental Compliance

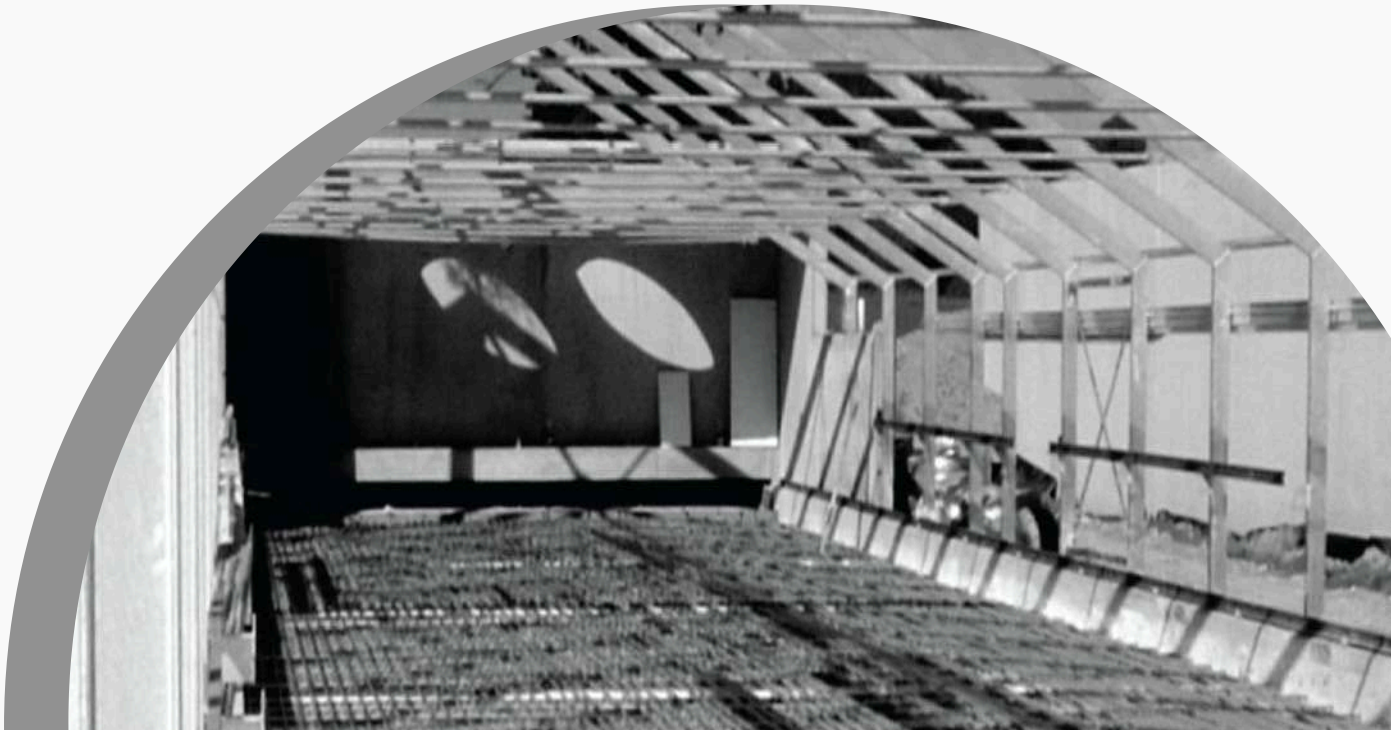
Reuse-Reduce-Recycle

Saving in transport and disposal costs

Increase in the strong ability of dried sludge

Elimination of problems related to handling paste like substance

Ideal solution for converting waste into flue or fertilizer



Our Technologies

Sludge Drying

Sludge drying is the need of the hour in all treatment plants to ensure lower recurring costs of tipping at landfills and also to reduce our environmental impact by usage of these sites. Undigested biological sludge can be used as a good alternate fuel. Handling of sludge is also eased by the process. Systems can be equipped with odour control systems.

Solar Sludge Dryer

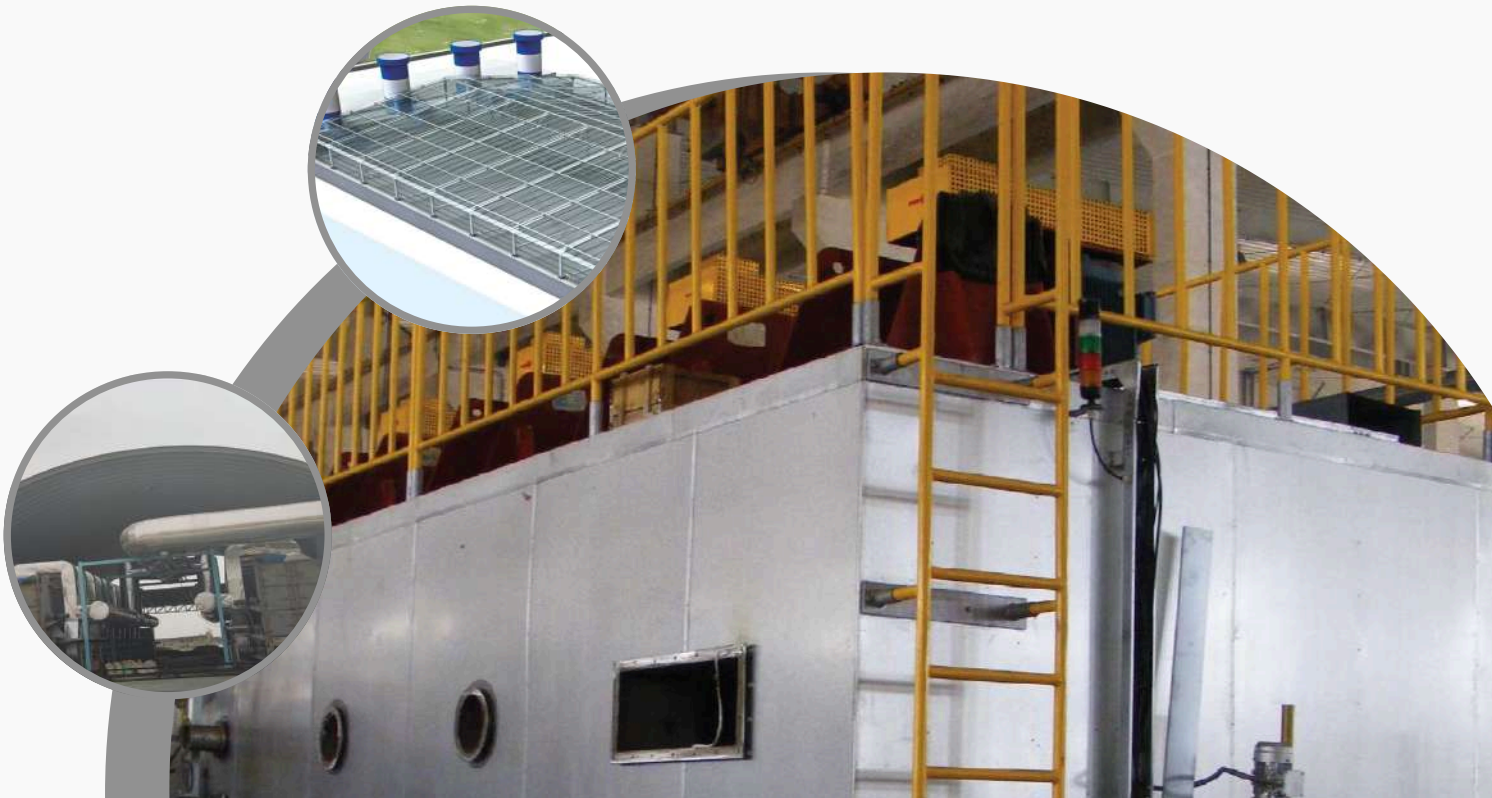
Uses solar irradiance and air management to dry the sludge. The system can be optimized by the use of additional heating delivered through the use of either floor heating or air heating utilizing waste / renewable energy sources.

Thermal Belt Conveyor Dryers

Uses waste heat from sources like biogas generators or aeration blowers at the treatment plant extracted through a heat exchanger. Modular and simple design and optimal for plants with space constraints and large volumes.

Composite Designs

Vpure could offer composite designs for your design needs to help with completely automated systems for feeding and delivery along with dewatering solutions integrated into further drying.



Solar Sludge Dryer

Basic Drying Process

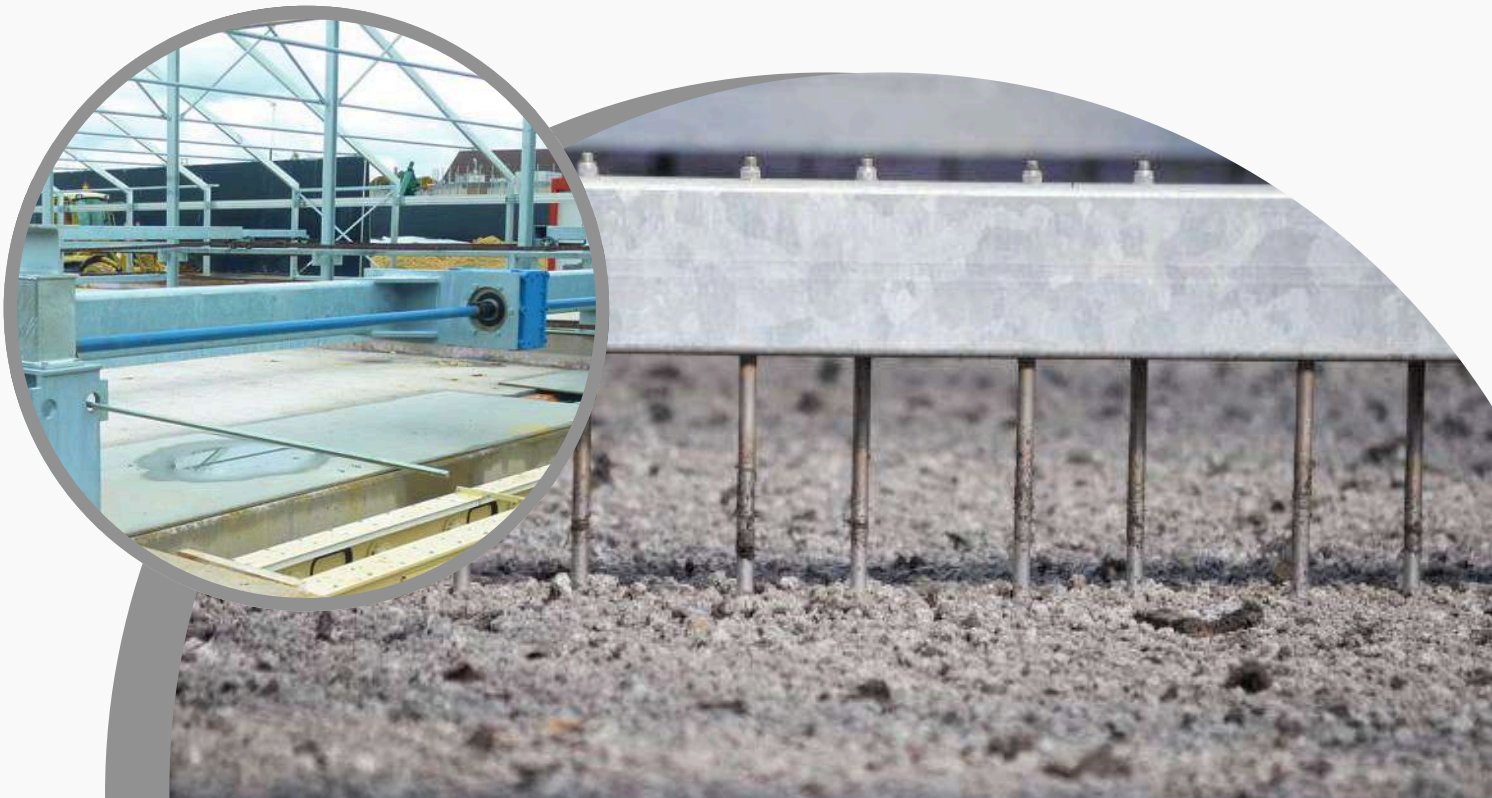
With options for automatic conveying and manual in put, the Vpure system offers edibility right from the start. With the help of a thin sludge layer in combination with fast turning intervals and optimum air supply the Vpure technology prevents anaerobic layers and charges fresh air with evaporated water in a continuous process.

Evaporation energy is covered by either solar or in combination of solar and free thermal energy until ca. 85 C is reached. which is used for an (optional) floor heating system under the sludge. Physical characteristics of water vapor is used efficiently by the Vpure.

Enhancement Options

Vpure can provide a number of enhancements to the drying system to provide improved performance and versatility of the system.

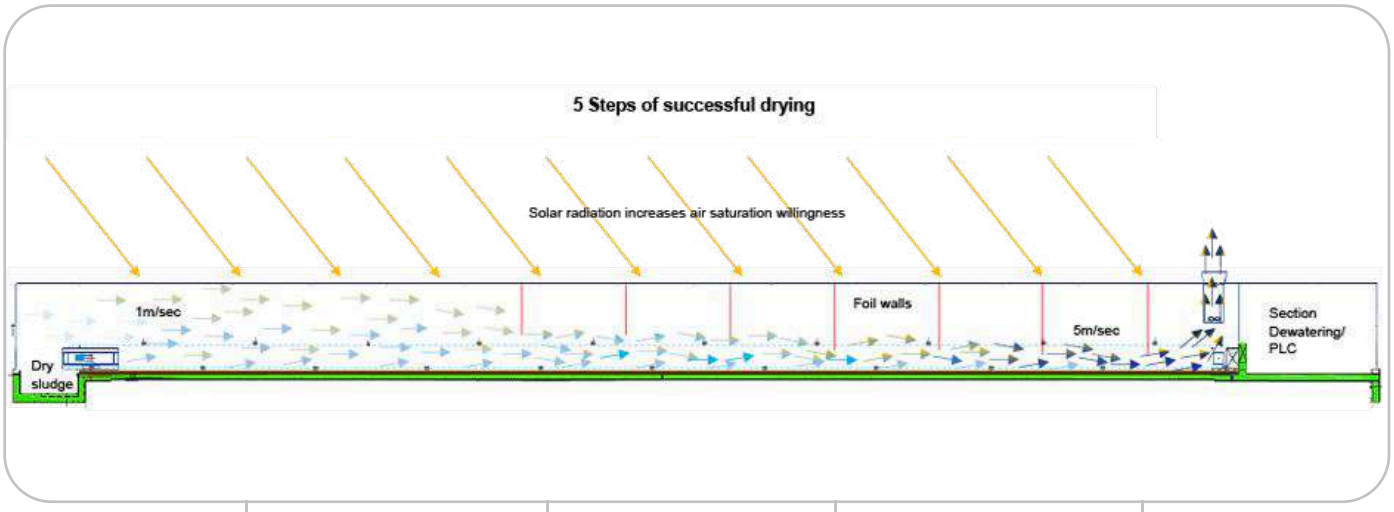
Automated Sludge handling systems for both feeding and output, which will be custom designed based on individual system requirements. It will minimize labor requirements and provide higher efficiency with the help of conveyors, pumping system sand storage bins.



Repurposing external waste heat sources to provide additional heat within the greenhouse to raise the internal temperature, hence increasing performance.

Warm or heating surface causes vapor generating inside the sludge core and its exit at the sludge shell. By continuously turning and conveying the sludge is able to get in contact with fresh non saturated air that carries out the vapor. Maximum efficiency and least hassles are reached by reliable mechanical engineering, unique air streaming control and precision sensors' data all processed inside a Siemens PLC system. If necessary air scrubber can be equipped easily by Vpure water solutions.

Drying sludge up to any required dry solid content is influenced by named parameters, weather conditions, available energy and sludge quality.



Dust Prevention :
Low air streaming above dry sludge

Sludge height 5-8cm :
Evaporation just on surface moisture below

Turning intervals :
All-over turning every minute against anaerobe milieu

Air saturation :
Electro-less walls lead air above vapor loaded sludge

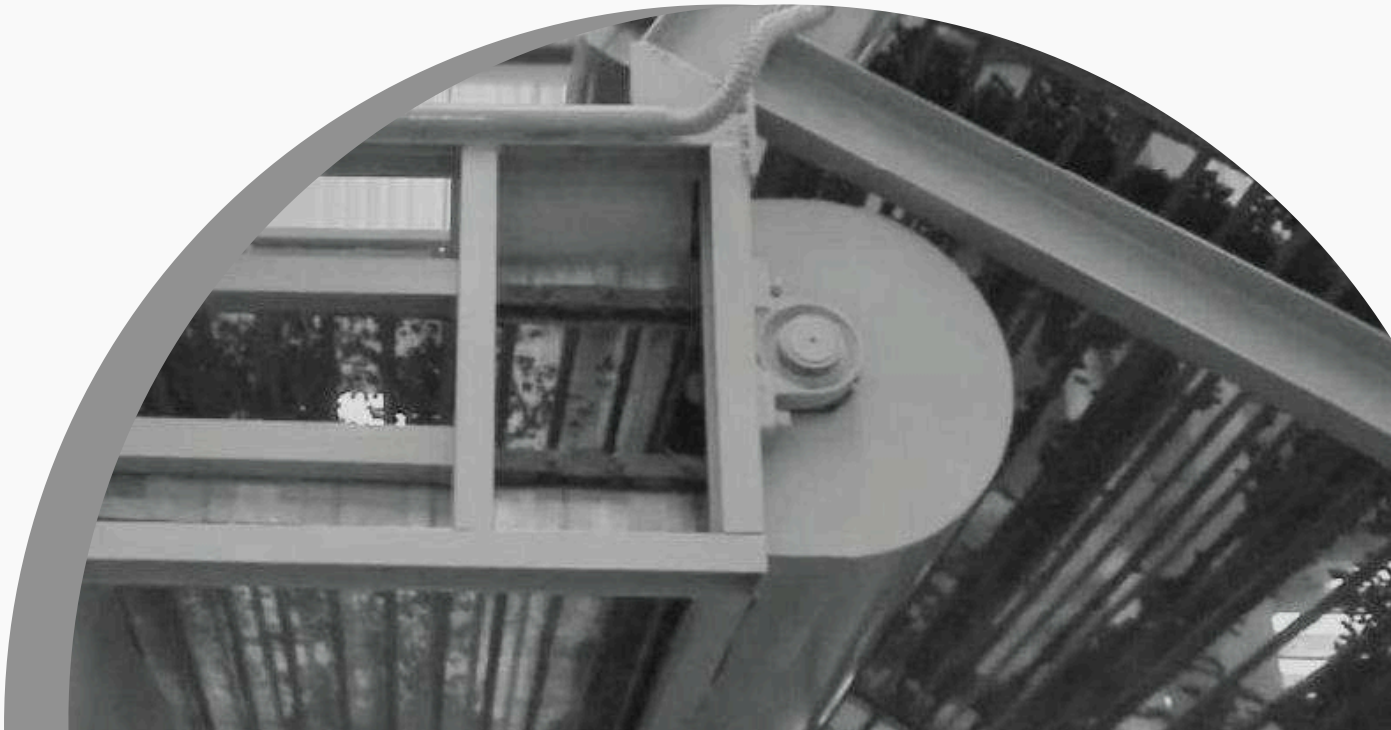
Evaporation Chill :
Sludge cooling by evaporation prevent additional odor

Mesh Belt Dryer - Thermal

Working Principle

This technology is gaining popularity across the globe. It is a lower temperature system and is not fueled by burning furnace but in contrast, the system exchanges it heat to thermal fluids, hot water or flue gas to air heat exchanger. It takes dewatered cakes and distributes them on a specially designed feeding belt. The uniformity of the cake distribution on the belts along with the slow movement optimizes the process by significant dust reduction in dust generation and quantity of fines. The Multi Layer Mesh Belt Dryer is a very flexible equipment since it can be custom-made based on size requirements and capacity. It also has the ability to work with lower and upper grade waste heat.

- **Over 90% dry solid content**
- **Uniform treatment produces high quality end product**
- **Granulated - dust free particles and hygienic**
- **Easy to store and dose**



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WATER SOLUTIONS

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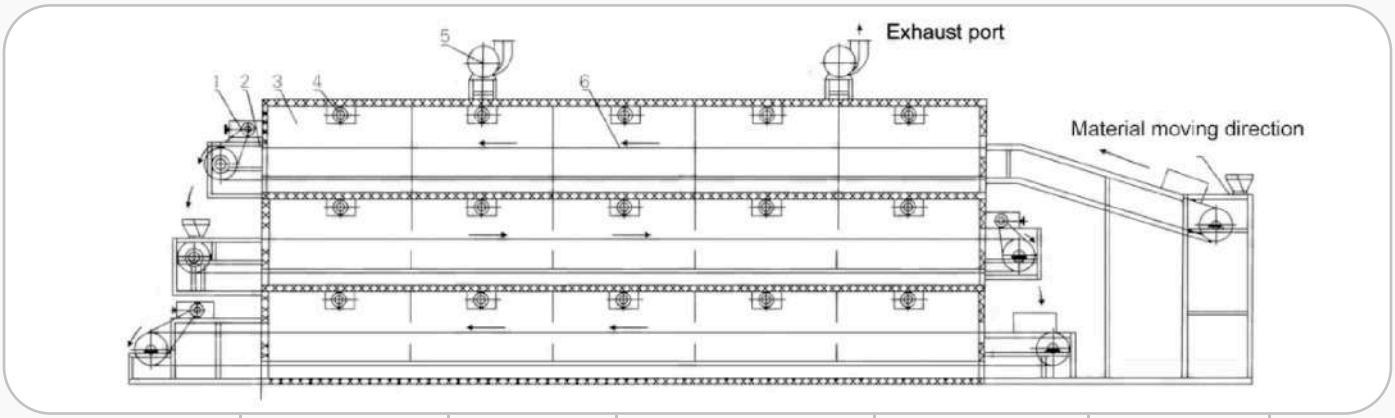
MAKE IN INDIA

CERTIFIED ISO 9001:2015 COMPANY



1. Transmission device
2. Output device
3. Body
4. Circulation Blower
5. Exhaust fan
6. Mesh belt
7. Input device

Process Description

The wet product is charged through a hopper or an inclined conveyor on the whole width of the following drying belt.

At second stage, a set of rotating shafts with fingers provide to level and to make homogeneous the thickness of the product before its inlet in the two drying conveyors.

The drying conveyors, transporting the material to be dried, are made by a series of special drilled profiles necessary for the air passage. And they are to wed by later at chains.

The temperature's switches. Placed between the two drying conveyors, transmits the obtained data to the kc, which elaborates them and adjusts the speed of drying and feeding conveyors in order to maintain constantly the hum id it of the product coming out of the dryer.

The dried product discharged from the drying conveyors through a transversals conveyor to be connected with the following equipment.

Key Features

The system can recover hot water at low temperature, steam, diathermic oil, high temperature smokes.

Multipurpose System with movable conveyors projected mainly for materials that have to conserve unchanged

High thermal efficiency of system.

Flexibility and elasticity of usage.

The dryer can work in continuous cycle or shift cycle without significant losses of production, because our plant is ready for drying in a few minutes.

Minimum risk of fire. To reach higher safety a fire alarm system is installed and control the risk of fire during working session, but also when the plant is stopped.

The visual control during all process by operator and automatic controlled process a Inditions guarantees the final humidity also independently from the initial moisture content of raw material Low emissions.

Experience and competence acquired thanks so years working in the drying/ dehydration of a huge range of raw material in the agricultural, food farming, and industrial branches.

Paddle dryer

Paddle dryer for biological and chemical sludge

This is a tried and tested technology across the globe to deliver results. Dual counter-rotating shafts with unique intermeshing hollow wedge-shaped paddles produce intimate mixing, optimum heat transfer, and provide a self-cleaning feature. A large heat transfer area to volume ratio is achieved by the use of hollow paddles and a jacketed vessel, through which the heating medium flows. The result is an efficient, compact machine with less space requirements and lower installation cost.

Why Paddle Dryer

- Very Less Area Require
- Easy to Operate
- Require Minimal Attention
- Simple Instruments Monitor the Process
- High Efficiency in any wheather
- Reduce disposable cost or to convert waste into marketable by product

Special Features

- SPECIAL FEATURES Paddle Dryer could dry the sludge from 0 to 25% Dry Solids to 90-95%05
- Sludge Headline Paddle which are made of 55 304 and SS 316 for non corrosive and no chemical effect between sludge and equipment. depending on sludge quality
- Sludge feeding and delivery can be automatedas per the requirement
- High contact tempraturs Our 150 C incare of TF

Low Installation Cost

- Compact
- Designed with compact structure
- Small off-gas system
- Vertical shaft removal reduces building size requirements

Low Operation Cost

- Easy to operate
- Requires minimal attention
- Simple instruments monitor the process
- High efficiency

Low Maintenance Cost

- Designed for high torque and low operating speed
- Simple durable design for easy and low maintenance
- No internal parts to adjust or maintain
- No metal to metal contact
- Shafts, pillow block bearings, and drive components are designed for long life under adverse conditions, assuring long term mechanical integrity