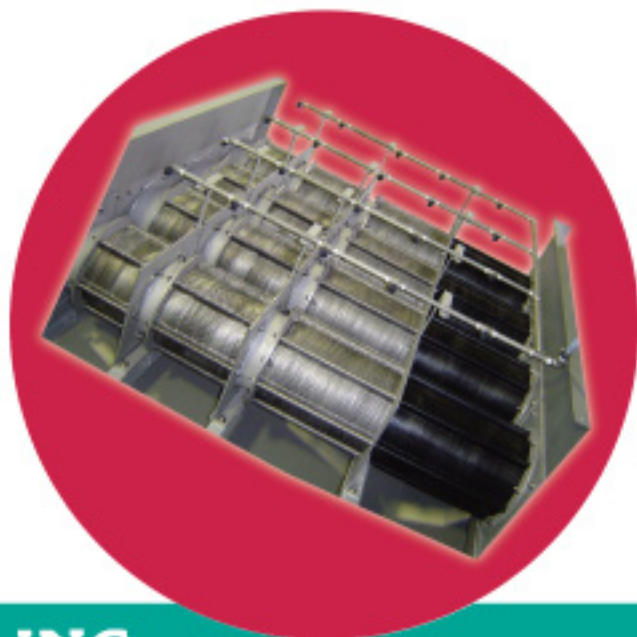


VOLUTE®



DEWATERING PRESS AND THICKENER

AMCON has opened a new door with technology that revolutionizes wastewater treatment.



AMCON NA INC.

Technology

Innovative System

AMCON's VOLUTE system offers many advantages over current sludge management practices of surplus sludge from biochemical treatments, oil bearing sludge from dissolved-air flotation thickening tanks and wastewater from livestock.

850 VOLUTEs are operating in Japan, another 100 units are operating world wide including the US and Canada.

Design and Function

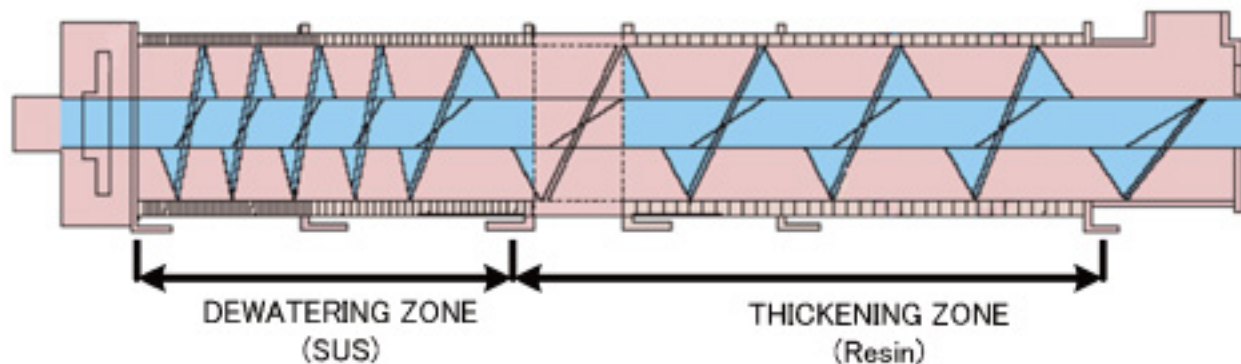
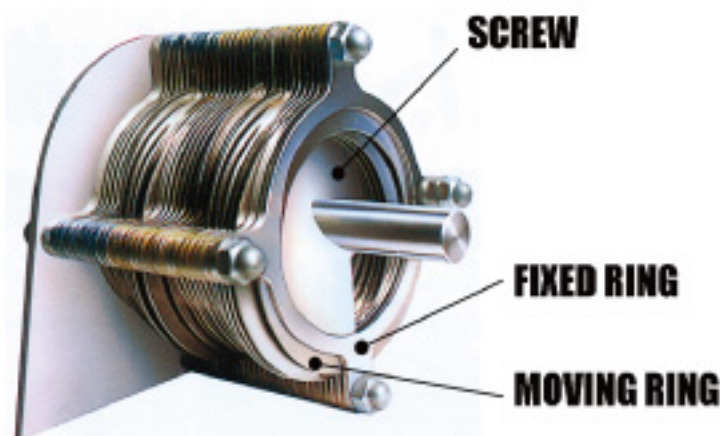
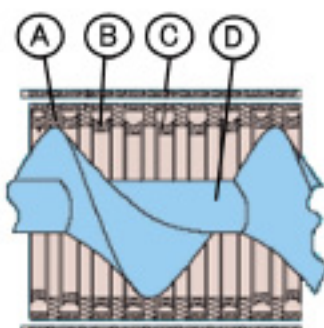
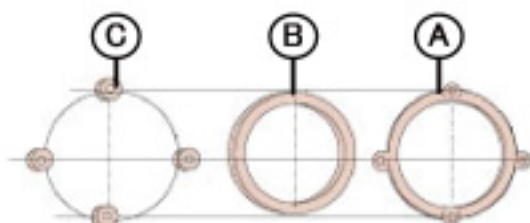
Layers of spacers, fixed and moving rings construct the cylinder. Moving rings, which are slightly smaller than the outer diameter of the screw and slightly narrower than the spacers, are located between the fixed rings and are moved by the screw. The moving rings continuously clean sludge out of the gaps and prevents clogging.

Mechanical Principle

The initial section is the thickening zone where the filtrate is discharged from. The pitch of the screw narrows and the gaps between the rings decrease towards the end-plate where sludge cakes are discharged. The pressure in the dewatering drum increases as the pitch of the screw narrows. The end-plate further increases the pressure, and dewateres sludge.

Process Description

The sludge is fed into a flow control tank and then into the flocculation tank where polymer coagulant is added. Shortly thereafter, the flocculated sludge overflows into the dewatering drum where it is filtered and compressed. The built-in timer and sensors of the VOLUTE controls this entire operation sequence, including sludge feed control, polymer makeup, dosing and sludge cake discharging.



Advantages

Built-in self cleaning system

The VOLUTE is clog-free construction. Wash water is only necessary for showering out leaking sludge from the gap.

VOLUTE handles oily sludge

Clog-free VOLUTE handles oily sludge without trouble.

Low Operational Cost

Clog-proof design of the VOLUTE reduces the amount of rinsing water to rinse out. It also consumes less electricity than conventional dewatering equipment.

All-In-One Design

The VOLUTE has a built-in flow control tank, thickening and dewatering chamber, which eliminates the need for thickeners, sludge storage, or separate dosing facilities.

24h Fully Automatic Operation

The built-in timer controls the entire operation of the VOLUTE, for processes such as feeding sludge directly from the biological process or clarifier, chemical make-up and dosing, flocculation and then dewatering.

Low noise and vibration

Slow speed motor generates much less noise and vibration

Direct dewatering can be accomplished from low concentrated sludge as diluted as 0.2%

The VOLUTE is capable of treating low concentration sludge from a biological process, such as an oxidation ditch.

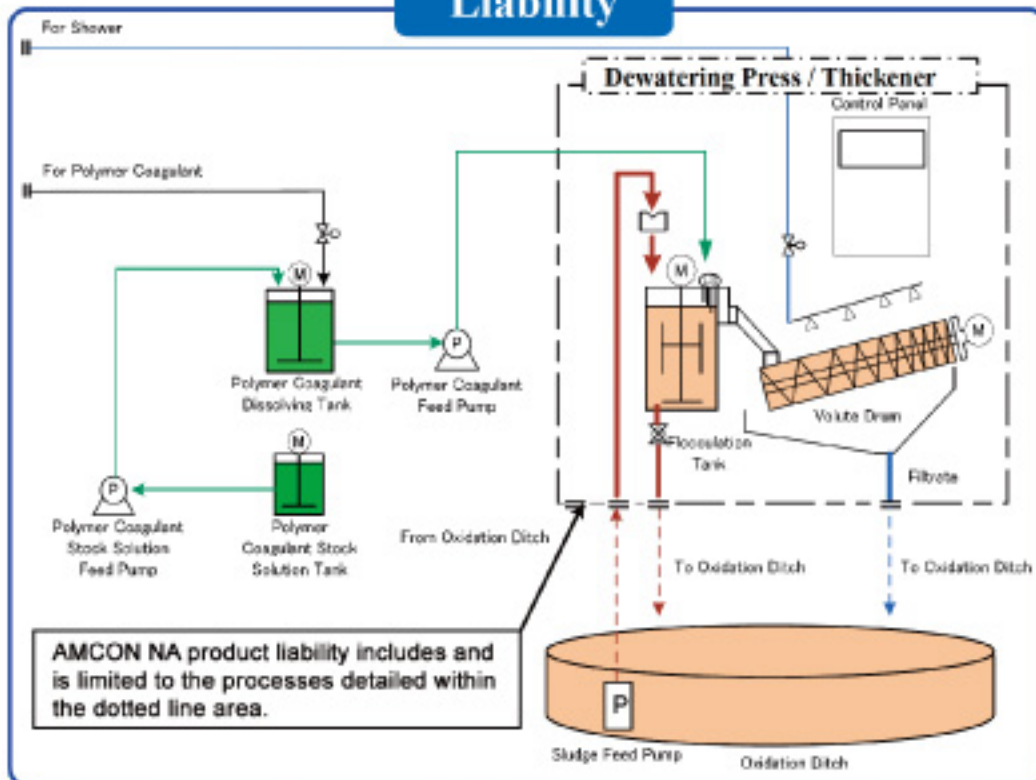
Stress free maintenance

A partial overhaul of the dewatering drum is a half-day operation and can be undertaken on-site.

Control panel includes control circuits

Single control panel operates dehydrator, pumps, and other equipments.

Liability



The VOLUTE Pilot Unit is available for your evaluation. Contact us at Toll Free: 1-866-638-0980

Applications

Type of Industry

Manufacture

Food Manufacturing "Processing" Industry

(Dairy Product, Soft Drink, Brewing, Mayonnaise, Souse, Confectionery, Bread, Meat, Fisheries, Noodle, Seasoning, Flour, Frozen Food, Sausage, Prepared Food, Abattoir, Others)

Chemical Industry

(Industrial Chemicals, Cosmetic, Pharmaceutical, Others)

Sewage Treatment Plant

Quantity of Waster to be treated

(264,200 ~ 2,642,000 g/day)

Rural Sewerage Project

Others

Livestock Industry

Livestock Experimental Station

Domestic Wastewater Treatment

(Septic Tank, Building, Theme Park)

Others

Type of Sludge

Treatment Method

Biological Treatment, Dissolved Air Flotation, Coagulating Sedimentation, Membrane Separation, Mixed Sludge, Oxidation Ditch, Concentrated Sludge, Digested Sludge, Mixed Raw Sludge, Others

Note: Above charts are for your quick reference.
Please feel free to ask us for further information.



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