VOLUTE™ VOLUTE DUO™

SLUDGE TREATMENT EQUIPMENT

P R O D U C T C A T A L O G

Amenity Convenience

AMCON®

Our task is to"Provide various factories and facilities throughout society with amenity and convenience beyond expectation."

In 1991, after a development period of approximately 10 years, the revolutionary water and sludge treatment product "VOLUTE" was completed, and its sales began. Our desire to provide a comfortable and convenient device to everyone involved in the sludge dewatering industry, had finally come to fruition at this instant. This invention established a whole new genre of sludge dewatering products known as "multi-disk outside-body-type screw press" and this new method spread throughout the world. We are dedicated not only to achieving exceptional dewatering performances but also to pursuing the distribution of comfort and convenience for customers who use our products.





1991

"VOLUTE™"

Inspired by the hanging straps in trains, we developed the "multi-disc screw press" by threading a screw through layered rings. This innovation marked the world's first achievement of a sludge concentrator and dewatering machine that didn't require rinsing water.

1992

"VOLUTE™" Dewatering Press TS Series

With an innovative concept of integrating a sludge conditioning tank (sludge service tank) into the dewatering machine, a high suspended solids (SS) recovery rate was achieved, leading to a significant improvement in sludge processing efficiency.



1996

Sludge Dewatering and Fermentation System "Dell Compo" DC Series

Taking up the challenge to not only reduce sludge volume but also to utilize it, we developed a system that can perform both dewatering and fermentation of sludge. This system achieves zero emissions of sludge and promotes local production and consumption.



1997

VOLUTE™ Dewatering Press MS Series

Through a collaborative development with the Japan Sewage Works Agency, we achieved the world's first success in directly dewatering sludge from an OD (Oxidation Ditch).



2001

VOLUTE™ Dewatering Press EC Series

By changing the material of the sludge conditioning tank in the TS Series from iron to stainless steel, we achieved improved durability and affordability. This led to the model becoming a long-standing bestseller.



2003

Sludge Dewatering and Drying System SP Series

By drying the dewatered sludge, the volume of sludge reduced, resulting in a significant reduction in sludge processing costs.



2004

Twin VOLUTE™ Dewatering Press TV Series

It was developed for dewatering solid materials such as sludge, silt, and vegetable scraps, among others. Currently, it is being utilized for dewatering dry film resist residue from printed circute boards.



VOLUTE™ Dewatering Press ES Series

Sold as a more affordable alternative to the EC Series. We expanded our lineup with basic models for large-scale processing and introduced them worldwide.

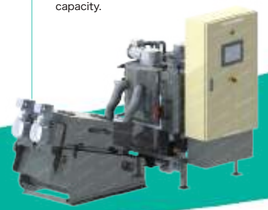


1982

"AMCON Belt-press-type Sludge Thickener" KM Series

We developed a sludge thickener that employs gravity concentration using cloth and a squeezing mechanism for compaction. It achieved a compact size and an affordable price. It was mainly supplied to collective septic tanks in housing complexes.

VOLUTE™ & VOLUTE DUO™



2016

VOLUTE™ Dewatering Press GS Series

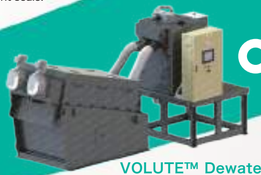
Built upon the foundation of the best-selling ES Series, this system incorporates a Thickening Flocculation Unit (TFU), resulting in a significant enhancement of processing capacity.



2018

VOLUTE™ Dewatering Press DW Series

Built upon the foundation of the MS Series, the DW Series incorporates numerous new features. Enhanced processing capacity allows for the reduction of lifecycle costs through downsizing of equipment scale.



2019

VOLUTE™ Dewatering Press FS Series

In addition to the simple structure of the ES Series, we have enhanced the control panel with a touch screen. Furthermore, to prevent overload stoppage that could hinder the dewatering process, we have incorporated VAS (VAS: VOLUTE Antilock System) safety operation support control. Our focus has been on pursuing user-friendly operation.



"VOLUTE™" Dewatering Press MW Series

Developed to treat mixed raw sludge. Achieved stable operation with an automatic control function that responds to concentration fluctuation of the supplied sludge.

2021

VOLUTE Next Generation Model "VOLUTE DUO™" Dewatering Press HR Series

This product can maintain high dewatering performance over an extended period and has reduced costs associated with sludge treatment. This new model is capable of handling challenging types of sludge, such as fibrous materials and sludge with high inorganic content, which were difficult for conventional presses to handle.

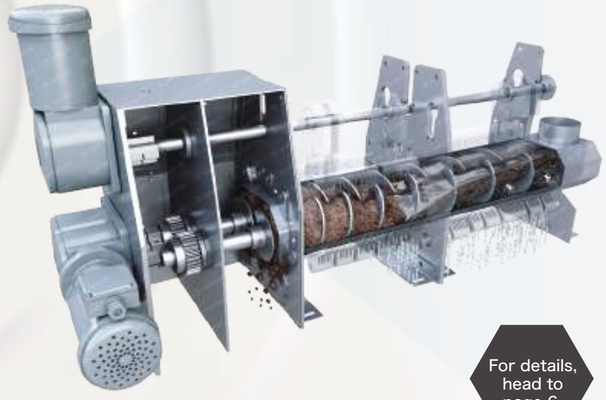
*Patented within the US



Features of our VOLUTE and VOLUTE DUO Dewatering Press

Dewatering Press《VOLUTE DUO ™》

VOLUTE DUO™



*Patented within the US

For details, head to page 6

Easy Operation & Maintenance

24-hour fully automatic unmanned operation is possible with an automatic operation control using various sensors. There is no need for manual startups or shutdowns whilst operating the machine. Additionally, there aren't many daily maintenance items, and on top of that, there are no complicated operations required. Furthermore, it does not require any special knowledge or skills, making it an easy-to-use product. The HR, GS, and FS series also feature an intuitive operating system, making the handling of the machine an effortless procedure having various information displayed on the control panel.

Preventing Overload Stoppage that Delays Dewatering

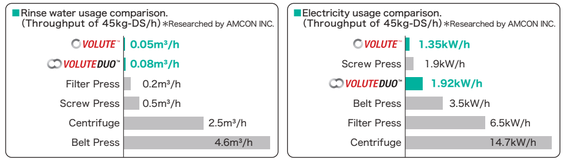
Equipped with the stable operation support control VAS (VOLUTE Antilock system), this design prevents overload stoppage, which may reduce hourly throughput.
Constantly monitoring the current value of the screw motor, this function controls the screw speed properly to ensure stable dewatering.
*For EC, ES and VT series, the above services are available as an option.

Water-Saving Design

Our unique self-cleaning mechanism prevents clogging of the filtration unit, eliminating the need for large amounts of water for rinsing. When compared to a belt press dewatering machine with a processing capacity of 45 kg-DS/h, the amount of water used for rinsing is approximately 1/90th, and even when compared to a screw press dewatering machine, it's about 1/10th of the usage of its rinsing water.

Power Saving Mechanism

The screw, which is located within the main filtration unit of VOLUTE, rotates at an extremely slow rate of 2 to 4 rpm, thus consuming very little power enabling a truly economic operation.



Low Noise/Low Vibration

As our product does not have a high-speed spinning unit, there is no need for noise or vibration concerns, as such, no preventative measures need to be put in place for noice pollution. Additionally, as there is no vibration from the machine itself, any kind of flooring modifications to accomodate vibrating machines will be unnecessary.

Safe and Hygienic

A safe and hygienic operation is possible as the dewatering compartment is completely sealed, and there is no concern for sludge spattering.
*For EC and VT series, the above services are available as an option.

Applicable for Various Sludge Types Throughout Many Industries

Municipal water and wastewater treatment plants,Industrial waste treatment plants, Food/beverage production plants, Dairy farming, Meat processing plants, Chemicals manufacturing plants, Machinery manufacturing plants, Metal processing plants, Laundry wastewater, etc.

Tailored to Treat Sludge with High Oil Content

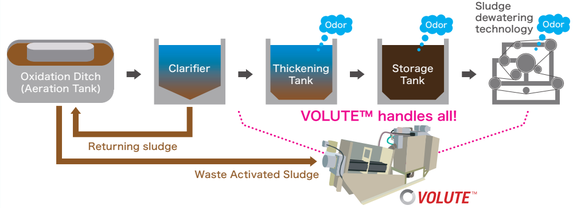
Thanks to the self-cleaning mechanism, it can also be used for oily sludge, which often causes severe clogging that is difficult for alternative methods to handle.

No Pre-Thickening Required

This machine has an integrated structure in which two processes -thickening and dewatering- are handled by a single filter element, thus allowing the user to directly charge low-concentration sludge having a TS of about 0.2% without any pre-thickening stage.
This not only reduces the construction and operating costs for the thickening and storage systems but also reduces odor because fresh aerobic sludge is dewatered.
The machine can also efficiently capture phosphorus in waste activated sludge to the dewatered cake side, reducing the load caused by phosphorus returning to wastewater treatment. In Japan, OD Reaction Tank (Aeration Tank)and Direct Dewatering Method is widely adopted as a sludge treatment method suitable for small-scale sewage treatment facilities with our VOLUTE Dewatering Press.

Advantages of direct dewatering from aeration tank

- Reduction in the construction and operating costs for thickening and storage equipment
- Odor reduction by dewatering fresh aerobic sludge
- Efficient recovery of phosphorus in waste activated sludge to the dewatered cake side, thereby reducing the load due to phosphorus returning to wastewater treatment



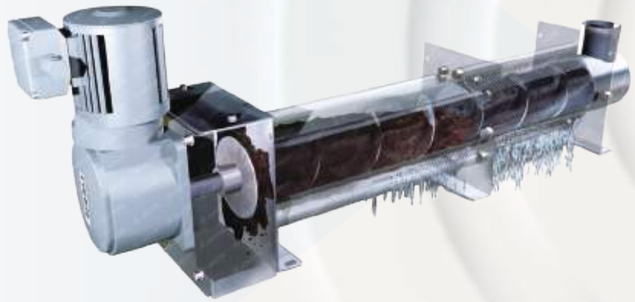
*The direct dewatering from oxidation ditch was demonstrated for the first time ever in the world as a result of the joint research of Japan Sewage Works Agency and AMCON in 1998.

Two-Year Warranty

All AMCON products are equipped with a 2 year warranty as standard. Extended warranty option for up to 4 years is also available. In order for our customers to be able to use our products comfortably and conveniently, we provide exceptional after-service as well.

Dewatering Press《VOLUTE ™》

VOLUTE™

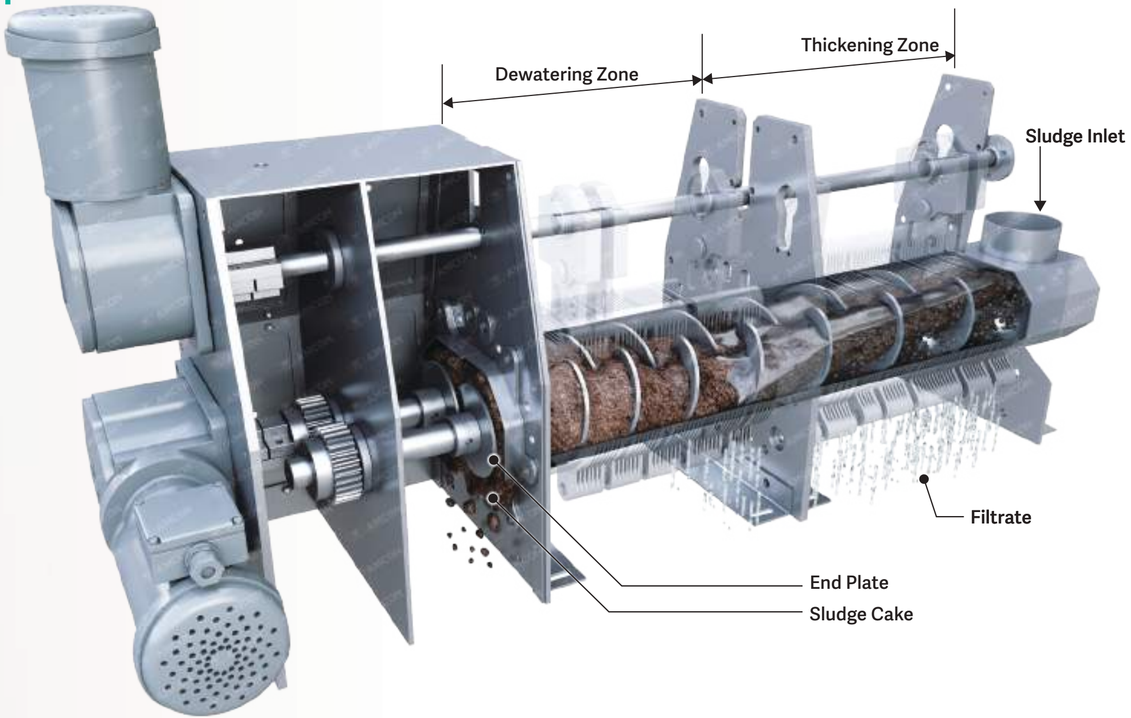


For details, head to page 10

"VOLUTE DUO" - A Sludge Dewatering Press adapted to a broad range of sludge types

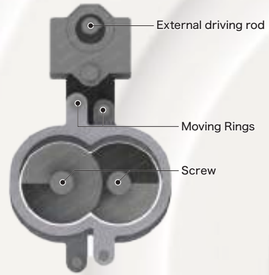
Clog-free self-cleaning mechanism

When the filtration unit of a sludge dewatering press becomes clogged, it impedes the discharge process of the filtrate, resulting in a decrease in dewatering performance. Our VOLUTE DUO has a filtration unit that consists of alternating layers of fixed rings and vertically moving rings maintaining a gap between them, and two screws are threaded through the filtration unit to transfer and compact the sludge.
A clog-free self-cleaning mechanism is achieved in which the moving ring is driven by the external rod to clean the filter element gap.
The amount of rinse water used for preventing clogging is minimal compared to other types of dewatering machines.
*Patented within the US



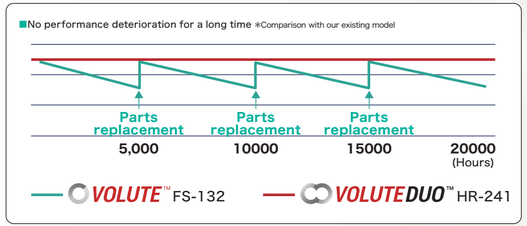
Applicable to a wide range of sludge types without blockage in the cylinder

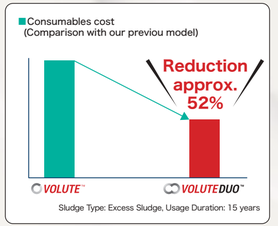
Each of the two screws rotate inward within the filter element to transfer sludge while the screw flights break up materials that easily cause clogging.
The machine resists clogging even with sludge containing highly fibrous or inorganic materials, thereby providing a stable dewatering performance.



Long-life design significantly reduces the costs of parts.

The ring is driven by the external rod to prevent contact between consumable parts such as Moving Rings and Screws.
The life of consumable parts has been dramatically extended, resulting in a significant reduction in consumables costs compared to our previous models.
VOLUTE DUO can also maintain high dewatering performance for a long time.

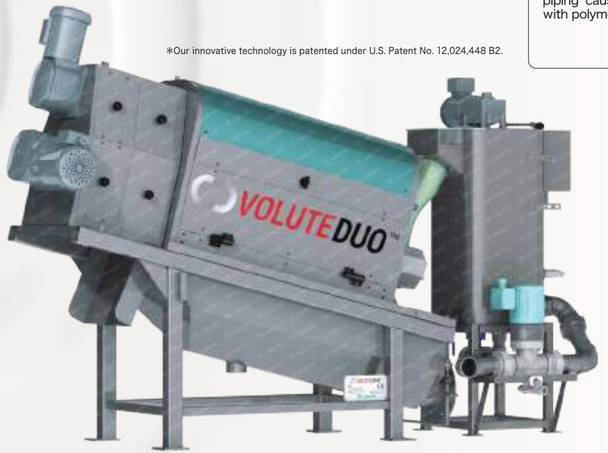




VOLUTE DUO™ Dewatering Press
HR Series

Evolved model of our VOLUTE Dewatering Press adapted to a wide range of sludge types

This model maintains high dewatering performance over an extended period without replacing consumable parts, thereby reducing the cost of sludge treatment. It can also handle sludge containing highly fibrous and inorganic materials.



*Our innovative technology is patented under U.S. Patent No. 12,024,448 B2.

PROCESS FLOW



1 Inline Mixer

An inline mixer mounted in the piping causes sludge to react with polymer.



2 Flocculation Tank

Flocculated sludge and polymer are mixed to form flocs suitable for dewatering through VOLUTE DUO.



3 Cylinder Unit

Sludge is thickened at the thickening zone in the precedent stage and dewatered at the dewatering zone in the subsequent stage under increased inner pressure.

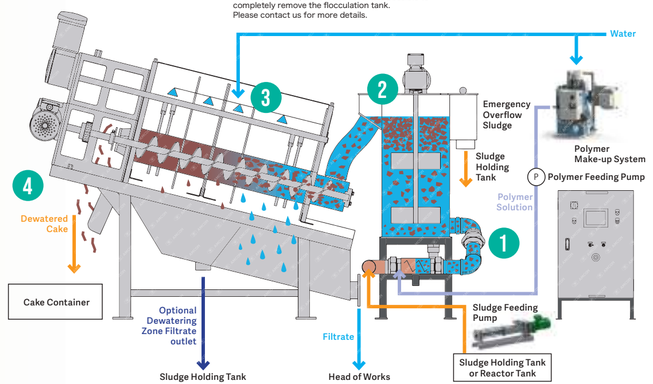


4 Discharge Outlet for Dewatered Cake

Further pressure is applied from the outlet side with the end plate, discharging dewatered cake with 20% (+/-5%) dry solids content.

*If a polymer coagulant is not used, it is possible to completely remove the flocculation tank. Please contact us for more details.

CHECK!
Video of the process flow can be viewed here.



Throughput / Specifications List

Model	Throughput Min. – Max.	Dimensions(mm)			Total Power (kW)	Weight(kg)	
		L	W	H		Empty	Operation
HR-241	8～50 kg-DS/h	2562	898	1646	0.6	615	710
HR-381	20～115 kg-DS/h	3316	935	1646	1	975	1140
HR-501	40～230 kg-DS/h	4569	1155	2258	1.92	2325	2755
HR-601	80～460 kg-DS/h	5010	1200	2463	2.27	2895	3465
HR-701	130～680 kg-DS/h	6007	1465	2895	3.75	3980	4760
HR-801	150～770 kg-DS/h	6400	1600	3000	4.45	5400	7200
HR-802	300～1540 kg-DS/h	6700	3300	3000	8.5	10600	13800

*The processing amount listed above is merely for reference. The specific numbers will differ between sludge types, so please contact us for detailed information.
*The above data is derived from the basic spec model of our product, and such specs are prone to change without prior notice. For information on the latest specs, please contact our head office.

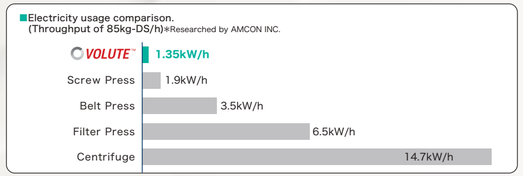
No clogging even with oily sludge
VOLUTE Dewatering Press

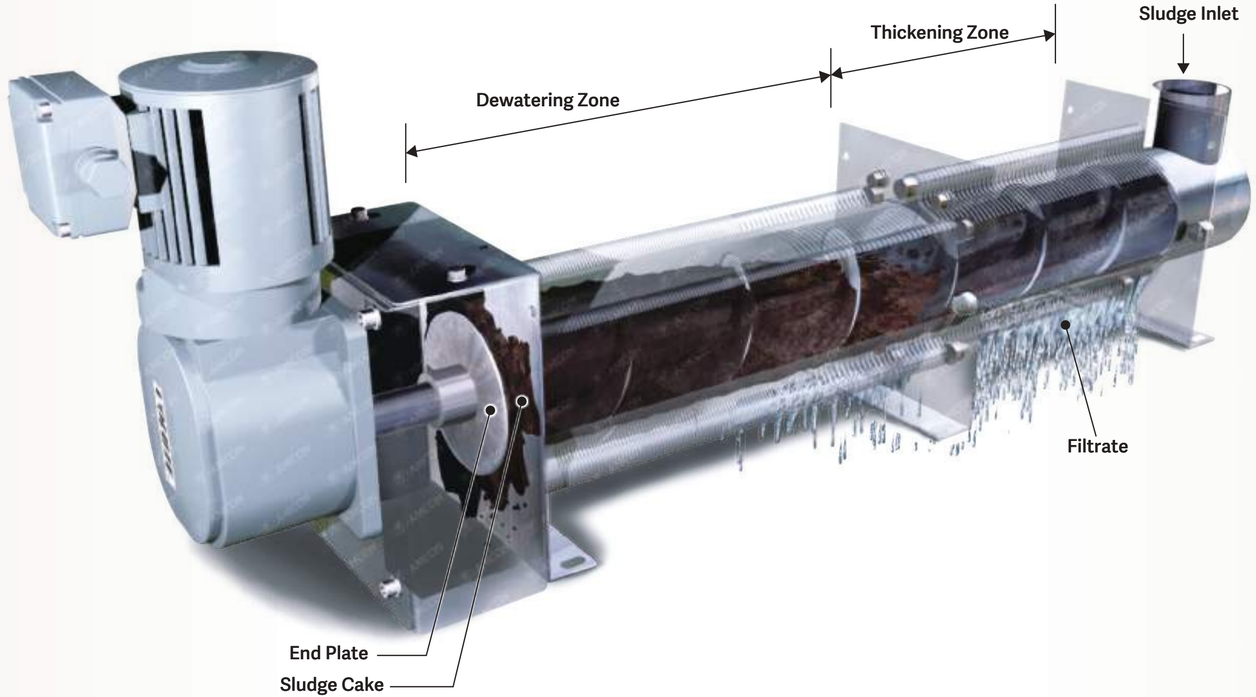
Clog-free self-cleaning mechanism

The machine has a filter element that consists of alternating layers of rings fixed at four locations (fixed rings) and vertically movable rings (moving rings) maintaining a gap between them, and a single screw that is threaded through the filter element to transfer and compact the sludge.
A clog-free self-cleaning mechanism is achieved since the screw rotates at a constant speed in contact with the moving ring, driving the moving ring to clean the filter element gap.
The design delivers stable dewatering performance even with oily sludge.
The amount of rinse water used for preventing clogging is minimal compared to other types of dewatering machines.

Power saving mechanism

The screw, which is located within the main filtration unit of VOLUTE, rotates at an extremely slow rate of 2 to 4 rpm, thus consuming very little power enabling a truly economic operation. When compared to a centrifugal dewatering system with the same throughput, our product consumes roughly a tenth of the electricity usage.



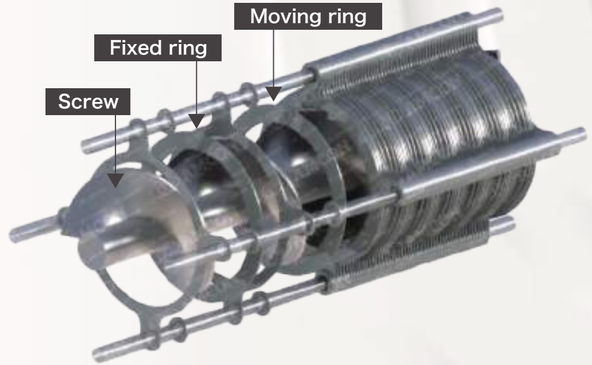


Expandable throughput

The throughput of VOLUTE can be easily expanded with its Cylinder Unit.
We are ready to meet your expectations, "We want to be prepared for the increase of sludge in the future, but without too much increase in the initial cost..."



Additional cylinder(image)



VOLUTE™ Dewatering Press GS Series

A high-end model equipped with a pre-concentration function

This model is equipped with a thickening device inside the coagulation tank. When setting the moisture content of the sludge cake to the same level as conventional machines, the sludge treatment performance improved by roughly 50%.



CHECK!

Video of the process flow can be viewed here.

PROCESS FLOW



1 Flow Control Tank

Sludge feed is regulated with the overflow pipe, returning excess volume to the sludge storage tank.



2 Thickening Flocculation Tank

Polymer and sludge are stirred and mixed, forming flocs suitable for VOLUTE. Then, the built-in thickener in the tank instantly thickens the sludge.



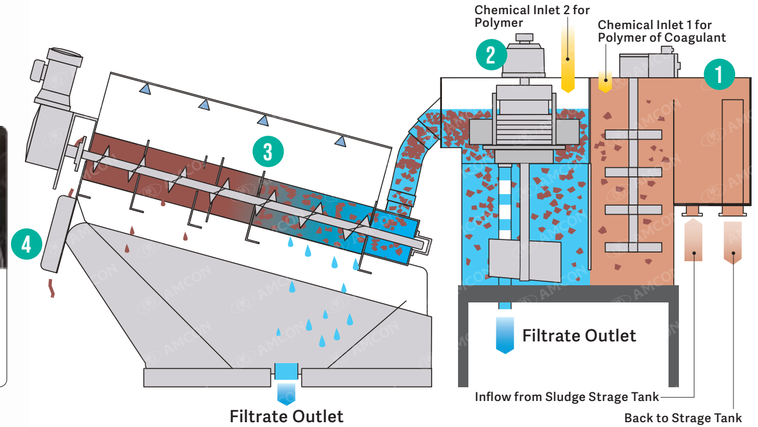
3 Cylinder Unit

Sludge is instantly thickened in the thickening zone of the cylinder, then the inner pressure is increased toward the dewatering zone, which helps with the dewatering of sludge.



4 Discharge Outlet for Dewatered Cake

Further pressure is applied from the outlet side with the end plate, discharging dewatered cake with 20% (+/-5%) dry solids content.



Throughput / Specifications List

Model \ Sludge Concentration (TS)	Raw Wastewater /Waste Activated Sludge / Chemically Precipitated Sludge		Dissolved-air Flotation Sludge	Dimensions(mm)			Total Power (kW)	Weight(kg)	
	0.2%	1.0%	2.0%	L	W	H		Empty	Operation
GS-101	~3kg-DS/h (~1.5㎥/h)	~4.5kg-DS/h (~0.45㎥/h)	~4.5kg-DS/h (~0.23㎥/h)	2045	1236	1440	0.4	344	546
GS-131	~6kg-DS/h (~3.0㎥/h)	~9kg-DS/h (~0.9㎥/h)	~9kg-DS/h (~0.45㎥/h)	2190	1236	1440	0.4	360	560
GS-132	~12kg-DS/h (~6.0㎥/h)	~18kg-DS/h (~1.8㎥/h)	~18kg-DS/h (~0.9㎥/h)	2190	1236	1440	0.5	470	680
GS-201	~13kg-DS/h (~6.5㎥/h)	~20kg-DS/h (~2.0㎥/h)	~20kg-DS/h (~1.0㎥/h)	2581	1236	1440	0.5	514	736
GS-202	~26kg-DS/h (~13.0㎥/h)	~40kg-DS/h (~4.0㎥/h)	~40kg-DS/h (~2.0㎥/h)	3161	1465	1850	1.35	1260	1885
GS-301	~30kg-DS/h (~15.0㎥/h)	~45kg-DS/h (~4.5㎥/h)	~45kg-DS/h (~2.3㎥/h)	3765	1375	1850	1.35	1240	1890
GS-302	~60kg-DS/h (~30.0㎥/h)	~90kg-DS/h (~9.0㎥/h)	~90kg-DS/h (~4.5㎥/h)	3985	1700	1850	1.95	1780	2780
GS-351	~60kg-DS/h (~30.0㎥/h)	~90kg-DS/h (~9.0㎥/h)	~90kg-DS/h (~4.5㎥/h)	4600	1570	2247	2.65	2135	3105
GS-352	~120kg-DS/h (~60.0㎥/h)	~180kg-DS/h (~18.0㎥/h)	~180kg-DS/h (~9.0㎥/h)	5179	1910	2286	5.95	4100	6730
GS-401	~80kg-DS/h (~40.0㎥/h)	~120kg-DS/h (~12.0㎥/h)	~120kg-DS/h (~6.0㎥/h)	5870	1905	2250	4.45	3200	5730
GS-402	~160kg-DS/h (~80.0㎥/h)	~240kg-DS/h (~24.0㎥/h)	~240kg-DS/h (~12.0㎥/h)	6170	2305	2250	5.95	4830	8700

*The processing amount listed above is merely for reference. The specific numbers will differ between sludge types, so please contact us for detailed information.
*The processing amount listed above is calculated under the assumption of processing sludge with a water content of 85%.
*The processing capacity of the floating froth is based on the assumption that this product is used in a meat processing factory with high oil content sludge.
*The above data is derived from the basic spec model of our product, and such specs are prone to change without prior notice. For information on the latest specs, please contact our head office.

VOLUTE™ Dewatering Press
FS Series / ES-051

Sludge is further thickened in the thickening zone of the cylinder, then the inner pressure is increased toward the dewatering zone, which helps with the dewatering of sludge.

This model has been specifically tailored to the basic functions of the dewatering press thus we have managed to provide it at an affordable price. We offer a full lineup of products capable of handling anything between 0.5 kg-DS/h to 640 kg-DS/h.



VOLUTE™

CHECK!
Video of the process flow can be viewed here.

PROCESS FLOW



1 Flow Control Tank
Sludge feed is regulated with the overflow pipe, returning excess volume to the sludge storage tank.



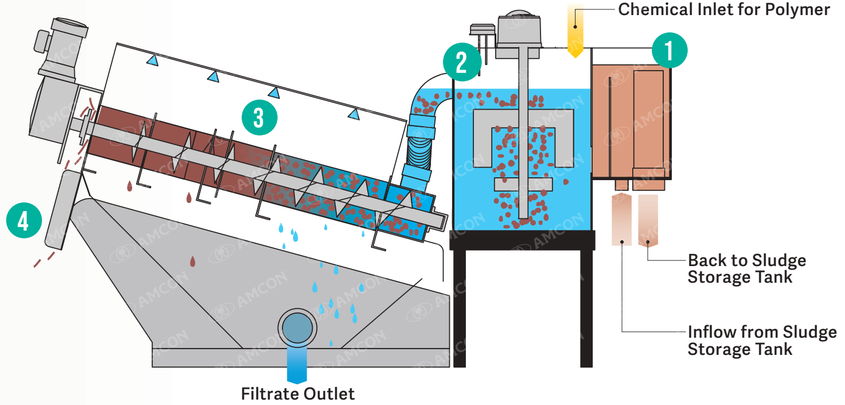
2 Flocculation Tank
Polymer and sludge are stirred and mixed, forming flocs suitable for VOLUTE.



3 Cylinder Unit
Sludge is instantly thickened in the thickening zone of the cylinder, then the inner pressure is increased toward the dewatering zone, which helps with the dewatering of sludge.



4 Discharge Outlet for Dewatered Cake
Further pressure is applied from the outlet side with the end plate, discharging dewatered cake with 20% (+/-5%) dry solids content.



Throughput / Specifications List

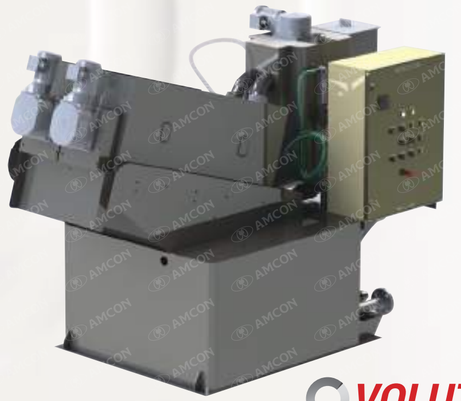
Model \ Sludge Concentration (TS)	Raw Wastewater /Waste Activated Sludge / Chemically Precipitated Sludge		Dissolved-air Flotation Sludge	Dimensions(mm)			Total Power (kW)	Weight(kg)	
	0.2%	1.0%	2.0%	L	W	H		Empty	Operation
ES-051	~0.5kg-DS/h (~0.25㎥/h)	~1kg-DS/h (~0.1㎥/h)	~2kg-DS/h (~0.1㎥/h)	1095	705	760	0.2	140	160
FS-101	~2kg-DS/h (~1.0㎥/h)	~3kg-DS/h (~0.3㎥/h)	~5kg-DS/h (~0.25㎥/h)	2131	924	1300	0.3	230	360
FS-131	~4kg-DS/h (~2.0㎥/h)	~6kg-DS/h (~0.6㎥/h)	~10kg-DS/h (~0.5㎥/h)	2276	918	1300	0.3	240	370
FS-132	~8kg-DS/h (~4.0㎥3/h)	~12kg-DS/h (~1.2㎥/h)	~20kg-DS/h (~1.0㎥/h)	2361	1027	1300	0.4	320	510
FS-201	~8kg-DS/h (~4.0㎥/h)	~12kg-DS/h (~1.2㎥/h)	~20kg-DS/h (~1.0㎥/h)	2806	1034	1450	0.4	430	620
FS-202	~16kg-DS/h (~8.0㎥/h)	~24kg-DS/h (~2.4㎥/h)	~40kg-DS/h (~2.0㎥/h)	2876	1205	1550	1.0	890	1370
FS-301	~20kg-DS/h (~10.0㎥/h)	~30kg-DS/h (~3.0㎥/h)	~50kg-DS/h (~2.5㎥/h)	3395	1150	1820	1.0	910	1325
FS-302	~40kg-DS/h (~20.0㎥/h)	~60kg-DS/h (~6.0㎥/h)	~100kg-DS/h (~5.0㎥/h)	3890	1470	1886	1.4	1510	2270
FS-351	~40kg-DS/h (~20.0㎥/h)	~60kg-DS/h (~6.0㎥/h)	~100kg-DS/h (~5.0㎥/h)	4114	1366	2248	2.1	1800	2550
FS-352	~80kg-DS/h (~40.0㎥/h)	~120kg-DS/h (~12.0㎥/h)	~200kg-DS/h (~10.0㎥/h)	4540	1645	2248	3.95	2780	3960
FS-401	~65kg-DS/h (~32.50㎥/h)	~100kg-DS/h (~10.0㎥/h)	~160kg-DS/h (~8.0㎥/h)	5400	1630	2250	2.45	2190	3490
FS-402	~130kg-DS/h (~65.0㎥/h)	~200kg-DS/h (~20.0㎥/h)	~320kg-DS/h (~16.0㎥/h)	5360	2115	2246	4.9	4230	6350
FS-403	~195kg-DS/h (~97.5㎥/h)	~300kg-DS/h (~30.0㎥/h)	~480kg-DS/h (~24.0㎥/h)	6350	2600	2250	7.45	6065	10255
FS-404	~260kg-DS/h (~130.0㎥/h)	~400kg-DS/h (~40.0㎥/h)	~640kg-DS/h (~32.0㎥/h)	6693	3720	2286	8.95	8170	14110

*The processing amount listed above is merely for reference. The specific numbers will differ between sludge types, so please contact us for detailed information.
*The processing amount listed above is calculated under the assumption of processing sludge with a water content of 85%.
*There is no limit to the sludge concentration, however, it must have enough liquidity to flow freely.
*The processing capacity of the floating froth is based on the assumption that this product is used in a meat processing factory with high oil content sludge.
*The above data is derived from the basic spec model of our product, and such specs are prone to change without prior notice. For information on the latest specs, please contact our head office.

VOLUTE™ Dewatering Press EC Series

A long-selling model boasting a solid capture rate of 95% or higher

Equipped with a tank for temporarily storing sludge before it is dewatered (sludge conditioning tank).
Dramatically increase the efficiency of sludge treatment with a high solid capture rate of over 95%.
The sludge conditioning tank can also be used as a reaction tank for inorganic coagulants as needed.



VOLUTE™

CHECK!
Video of the process flow can be viewed here.

PROCESS FLOW



1 Sludge Conditioning Tank

A sludge conditioning tank temporarily stores sludge before it is dewatered. The model with a sludge conditioning tank realizes a high solid capture rate higher than 95%. When required, the conditioning tank can be used as a reactor tank for coagulant.



2 Flow Control Tank

Sludge feed is regulated with the overflow pipe, returning excess volume to the sludge storage tank.



3 Flocculation Tank

Polymer and sludge are stirred and mixed, forming flocs suitable for VOLUTE.



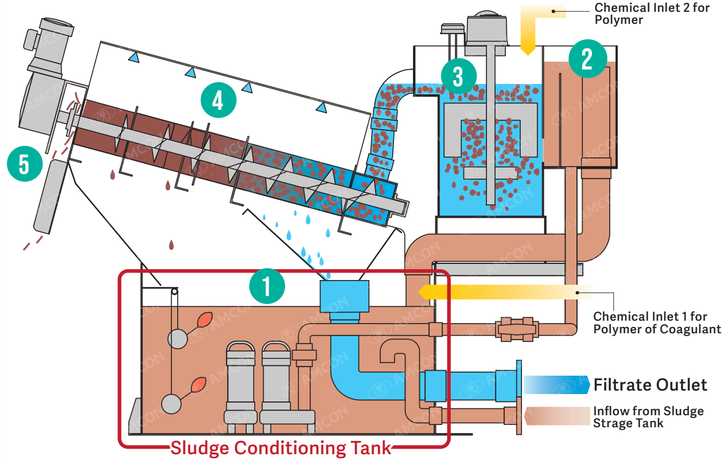
4 Cylinder Unit

Sludge is instantly thickened in the thickening zone of the cylinder, then the inner pressure is increased toward the dewatering zone, which helps with the dewatering of sludge.



5 Discharge Outlet for Dewatered Cake

Further pressure is applied from the outlet side with the end plate, discharging dewatered cake with 20% (+/-5%) dry solids content.



Throughput / Specifications List

Model \ Sludge Concentration (TS)	Raw Wastewater /Waste Activated Sludge / Chemically Precipitated Sludge		Dissolved-air Flotation Sludge	Dimensions(mm)			Total Power (kW)	Weight(kg)	
	0.2%	1.0%	2.0%	L	W	H		Empty	Operation
EC-101	~2kg-DS/h (~1.0㎥/h)	~3kg-DS/h (~0.3㎥/h)	~5kg-DS/h (~0.25㎥/h)	1770	700	1705	0.65	275	675
EC-102	~4kg-DS/h (~2.0㎥/h)	~6kg-DS/h (~0.6㎥/h)	~10kg-DS/h (~0.5㎥/h)	1770	900	1705	0.7	325	825
EC-131	~4kg-DS/h (~2.0㎥/h)	~6kg-DS/h (~0.6㎥/h)	~10kg-DS/h (~0.5㎥/h)	1770	700	1705	0.7	290	690
EC-132	~8kg-DS/h (~4.0㎥/h)	~12kg-DS/h (~1.2㎥/h)	~20kg-DS/h (~1.0㎥/h)	1770	900	1705	0.8	355	855
EC-133	~12kg-DS/h (~6.0㎥/h)	~18kg-DS/h (~1.8㎥/h)	~30kg-DS/h (~1.5㎥/h)	1847	1100	1705	0.9	425	1075
EC-202	~16kg-DS/h (~8.0㎥/h)	~24kg-DS/h (~2.4㎥/h)	~40kg-DS/h (~2.0㎥/h)	2498	1180	1770	1.45	875	1825
EC-203	~24kg-DS/h (~12㎥/h)	~36kg-DS/h (~3.6㎥/h)	~60kg-DS/h (~3.0㎥/h)	2596	1495	1770	1.8	1080	2380
EC-204	~32kg-DS/h (~16㎥/h)	~48kg-DS/h (~4.8㎥/h)	~80kg-DS/h (~4.0㎥/h)	2676	1780	1770	2.7	1475	3125
EC-205	~40kg-DS/h (~20.0㎥/h)	~60kg-DS/h (~6.0㎥/h)	~100kg-DS/h (~5.0㎥/h)	2746	2085	1770	2.9	1825	3725

*The processing amount listed above is merely for reference. The specific numbers will differ between sludge types, so please contact us for detailed information.
*The processing amount listed above is calculated under the assumption of processing sludge with a water content of 85%.
*There is no limit to the sludge concentration, however, it must have enough liquidity to flow freely.
*The processing capacity of the floating froth is based on the assumption that this product is used in a meat processing factory with high oil content sludge.
*The above data is derived from the basic spec model of our product, and such specs are prone to change without prior notice. For information on the latest specs, please contact our head office.

VOLUTE™ Thickener
VT Series

Consistant and stable sludge concentration is possible

Mechanically thicken the sludge with a concentration of 1% or less to 4 ~ 6%. This model will constantly produce stable thickened sludge, which is difficult to obtain with gravity thickening. Installing a thickener in the preceding stage of an existing belt press improves the capacity of the dewatering machine. The thickener is effective in reducing sludge volume while the final form of sludge is still semi-liquid and pumpable.



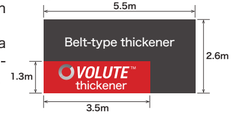
Throughput / Specifications List

Model	Throughput (m³/h)	Dimensions (mm)			Total Power (kW)	Weight (kg)	
		L	W	H		Empty	Operation
VT-101	~1	1762	890	1031	0.3	160	290
VT-131	~3	1762	890	1031	0.3	170	300
VT-201	~10	2436	968	1737	1.15	360	680
VT-301	~30	3463	1320	2026	1.5	840	1650
VT-302	~60	3940	1461	2045	3.0	1670	3170
VT-303	~90	4195	1771	2045	4.45	2230	4380

*The capacity figures concern waste activated sludge from biological treatment with TS 0.4% and thickening up to 4% with polymer.
*The processing amount listed above is merely for reference. The specific numbers will differ between sludge types, so please contact us for detailed information.
*The above data is derived from the basic spec model of our product, and such specs are prone to change without prior notice. For information on the latest specs, please contact our head office.

Small footprint

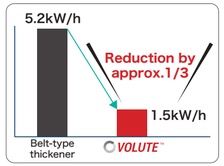
This model can also be installed in places where other types of thickeners would be difficult to install, such as in low-ceiling buildings or where the space is limited.
This model does not require any cost on renovating the area, so it is also ideal when considering the replacement of an existing thickener.
When comparing the VOLUTE to a belt-type thickener, both having a throughput of 30 m³/h, the footprint is about 1/3.



*Researched by AMCON INC.
The footprint of the belt-type thickener does not include the flocculation reaction tank and operation panel.

Power-saving operation

The screw in the filter element rotates at a very low speed of approximately 2 to 4 rpm and consumes very little power, resulting in a high degree of cost-effectiveness.
When comparing VOLUTE to a belt-type thickener, both having a throughput of 30 ㎥/h, the power consumption is about 1/3.



*Researched by AMCON INC.

Waste Dry Film Photoresist Dewatering Press TV-50F

Reduces waste photoresist with high dewatering capacity and helps reduce disposal cost

TV-50F is designed to dewater waste photoresist generated from photoresist patterning processes, such as PCB manufacturing. The machine has a compact design with the below dimensions. It can be installed in a small space available in your factory.

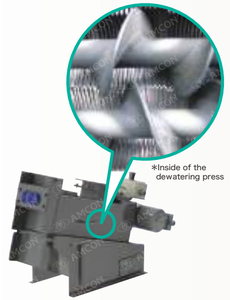
Throughput / Specifications List

Model	Throughput (kg-WET/h)	Dimensions (mm)			Total Power (kW)	Weight (kg)
		L	W	H		
TV-50F	~30	850	374	555	0.1	60

*The hopper feed is an optional part.
*The above data is derived from the basic spec model of our product, and such specs are prone to change without prior notice. For information on the latest specs, please contact our head office.

Clog-free

The TV-50F consists of a filter and two screws passing through the filter. The filter is comprised of two types of rings, fixed and moving rings. The screws convey and compact waste photoresist. The flights of the screws overlap each other. The rotating flights cut into the waste while the waste is flowing towards the outlet. This design helps achieve high dewatering efficiency and stable dewatering treatment.



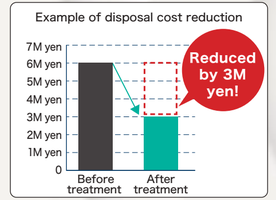


Reduce disposal cost

Waste disposal cost is reduced by dewatering dry film photoresist containing photoresist remover and reducing the amount of waste to 30% to 65%. Reduction in the amount of waste will also shorten the time required for transportation and disposal.

Production capacity	360,000㎥/year (30,000㎥/month)
Waste generation	60t/year
Waste disposal cost	100yen/kg or 20,000yen/drum
Waste redution by dewatering	50%
Dewatering capacity	30kg-WET/h max

*This cost estimate does not include transport, equipment maintenance, operation and running costs.



Improvement of work environment

Before being dewatered, dry film photoresist waste is mixed with photoresist remover and the water content is very high. The waste is a strong alkaline. It is hazardous and it must be handled carefully during transport and disposal in order not to spill it. The waste, after being dewatered by the TV-50F, is like grated cheese and it won't drip from the remover solution, which leads to the improved working environment for transport and disposal.



Sludge Dryer
SP Series

CHECK!
Video of the process flow can be viewed here.

Electric heat source
Rotary kiln type

This system can convert waste activated sludge and chemical sludge into dried sludge with a water content of 10 to 40%, reducing the amount of the waste sludge. High thermal efficiency is achieved with direct contact of the dewatered cake to the heat source. The unique double layered drum structure ensures a sufficient drying area while providing a compact design. When combined with VOLUTE, it is possible to construct a dewatering and drying system.



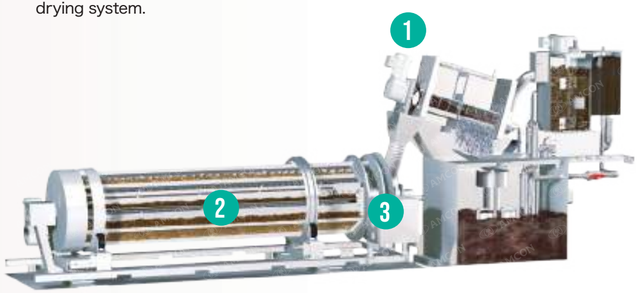
Throughput / Specifications List

Model	Throughput	Dimensions (mm)			Total Power (kW)	Weight (kg)
		L	W	H		
SP-2	~4kg-DS/h (~26.6kg-WET/h)	3141	940	900	14.4	310
SP-3	~5.5kg-DS/h (~36.6kg-WET/h)	3357	950	1009	19.2	350

*The standard throughput is a guideline for drying biologically treated surplus sludge, with a moisture content of 83-85%, down to a moisture content of 40%. The throughput can vary depending on the characteristics of the sludge and the desired moisture content, therefore, please reach out for further discussions on model selections.
*The dimensions, weight, and total power consumption provided are for the dryer unit alone.

VOLUTE™ Dewatering Press + SP series
Example of combined layout

When combined with VOLUTE, it is possible to construct a dewatering and drying system.





1 Discharge Outlet for Dewatered Cake
The dewatered cake with a water content of about 83% discharged from the sludge dewatering press is continuously fed into the dryer.



2 Inside of the Dryer
Dewatered cake fed to the dryer is gradually dried in the drying drum.



3 Dried Cake
Dried cake with a water content of 10 to 40% is discharged.

Sludge Dryer
K Series



Steam heat source
Drum type

This is a drum-type dryer that performs drying by a steam-heated drum. This machine can convert waste activated sludge and chemical sludge into dried sludge with a water content of 10 to 40%, reducing the amount of waste sludge. When combined with VOLUTE, it is possible to construct a dewatering and drying system.

Throughput / Specifications List

Model	Throughput	Dimensions (mm)			Required Amount Steam (kg/h)	Total Power (kW)	Weight (kg)
		L	W	H			
K-510C	~9kg-DS/h (~60kg-WET/h)	2300	1300	1060	70.3	0.8	1500
K-515C	~14kg-DS/h (~93kg-WET/h)	2800	1300	1060	109.0	0.8	1900
K-810C	~15kg-DS/h (~100kg-WET/h)	2600	1950	1215	117.2	1.5	3000
K-815C	~22kg-DS/h (~146kg-WET/h)	3100	1950	1215	171.1	1.5	3500
K-820A	~28kg-DS/h (~186kg-WET/h)	3500	1950	1215	218.0	1.5	4000
K-12520A	~44kg-DS/h (~293kg-WET/h)	4130	2900	2000	343.4	3.0	9000

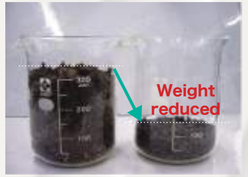
*The standard throughput is a guideline for drying biologically treated surplus sludge, with a moisture content of 83-85%, down to a moisture content of 40%. The throughput can vary depending on the characteristics of the sludge and the desired moisture content, therefore, please reach out for further discussions on model selections.
*The dimensions, weight, and total power consumption provided are for the dryer unit alone.
*The K-Series is a product produced by Kankyo Setubi CO.,LTD.

Reduces significant amount of waste sludge

By drying the dewatered cake with a water content of about 83%, the water content can be reduced to roughly 10~40%. The dryer significantly reduces the amount of waste sludge. Your sludge disposal cost is greatly reduced.

Water content and weight of sludge

Sludge condition	Water content	Sludge cake weight
Raw sludge	99%	10000kg
Thickened sludge	96%	2500kg
Dewatered cake	83%	588kg
Dried sludge	40%	167kg
	30%	143kg
	20%	125kg
	10%	111kg



*Trial calculation for solid content of 100 kg-DS

VOLUTE™ Dewatering Press + K series
Example of combined layout

1 Discharge of Dewatered Cake



The dewatered cake with a water content of about 83% discharged from the sludge dewatering press is continuously fed into the dryer.





2 Drying Drum
The sludge is dropped onto the drum surface and then it gets dried during one rotation.



3 Dried Cake
Dried cake with a water content of 10 to 40% is discharged.

Polymer Make-up System
Polymore

In-line mixing type for liquid polymer

Polymore which is manufactured by POLYMORE, a Swedish company, is an in-line mixing type, automatic liquid polymer make-up system that is widely used in Europe.

Specifications List

Model	Dissolving Capacity (L/h) (at a 400-fold dilution)	Dimensions (mm)			Total Power (kW)	Weight (kg)	
		L	W	H		Empty	Operation
Mini2-0.2	36～120	495	423	534	0.095	25	32
Mini3-0.6	48～180	495	423	534	0.12	25	32
Mini5-1.2	96～300	495	423	534	0.12	25	32
Mini10-2.4	210～600	495	423	534	0.12	25	32
Mini30-3.0	210～1800	595	419	534	0.12	28	35
Duo40-6.0	210～2400	638	514	584	0.21	38	57
Duo65-9.0	240～4200	636	514	684	0.21	45	67
Midi100-12	240～6000	771	625	720	0.39	64	115
Midi160-24	480～9600	771	625	720	0.39	64	115
Midi175-38	600～10500	812	624	1020	0.42	90	168
Midi300-54	1200～18000	840	665	1600	0.42	110	188

※The above dimensions/weight etc. represent the details of a single Polymore dissolving unit.
Peripheral products such as primary storage tanks and water tanks are not included in the dimensions and weight listed above.

Unnecessary to use pump for dosing of polymer solution

Adopting a structure that discharges dissolved solution using inflow water pressure from the dissolved water supplied to Polymore.
It is unnecessary to use a pump for dosing polymer solution into the sludge dewatering machine.



POLYMORE

Small footprint

A compact design was achieved by adopting inline mixing. Although small, the dissolving capacity is powerful. It is best for those who require an all-round product to fit in a limited space.

Easy operation

All operational adjustments are done by setting the flow rate of dilution water and neat polymer pump. Polymer can be easily made up to specific concentration. Moreover, it is also possible to operate in conjunction with sludge dewatering press by using external input and alarm output.

Example of installation



Installation on dedicated stand

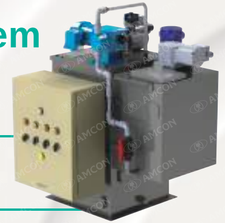


Supplied with sludge dewatering machine



Wall-mounted

Polymer Make-up System
AF Series



Stainless steel basic model for liquid polymer

This machine automatically dissolves polymer used in sludge dewatering presses and all other wastewater treatment systems into a specified dilution rate. Significant labor savings can be achieved by automation of the dissolving process.

Specifications List

Model	Dissolving Capacity (L/h)	Stock Sloution Tank(L)		Dimensions (mm)			Total Power (kW)	Weight (kg)	
		Effective Capacity	Operating Capacity	L	W	H		Empty	Operation
AF-50SG	600	40	30	812	732	1100	0.35	145	285
AF-70SG	1350	100	80	1331	1030	1306	0.70	220	760

※Polymer dosing pump is not included within the scope of supply of this product.
We will select the corresponding pump based on your requirement. Please, consult us.

Reduce manual labor through full automation

As long as the neat polymer tank is refilled, all troublesome measuring and dissolving tasks can be performed automatically, and a consistent polymer solution is always obtained.
In addition, compared to manual dissolving, lumps are less likely to be formed, so the polymer is not wasted.

Polymer Make-up System
AP Series

For powdered polymer (single-chamber type)

This machine automatically dissolves polymer used in sludge dewatering presses and all other wastewater treatment systems into a specified dilution rate. Significant labor savings can be achieved by automation of the dissolving process. Additionally, we offer a comprehensive lineup of the CS Series, with models catering to everything from small to large-scale operations, allowing you to select the most appropriate unit based on your required treatment capacity. Furthermore, by adding an optional powder feeding unit, there is no need for a base to refill the powder or to lift chemicals to elevated positions; thus contributing to a safer and more efficient working environment.



Specifications List

Model	Dissolving Capacity (L/h)	Hopper Capacity (L)	Dimensions(mm)			Total Power (kW)	Weight(kg)	
			L	W	H		Empty	Operation
AP-M03	500	30	1142	1256	1675	0.5	255	790
AP-M05	500	50	1142	1256	1785	0.5	260	805

*A polymer feed pump is not equipped with the unit itself.

A combined operation is possible with sludge dewatering presses and others

The device continuously monitors the dissolving tank and the hopper using sensors. When the level of the polymer is low or when supply of dilution water is inadequate, the device automatically stops and sends a warning signal to the external equipment it is attached to.

CS Series

For powdered polymer (triple-chamber type)



Kozegho
Kozegho dosing systems

Specifications List

Model	Dissolving Capacity (L/h)	Hopper Capacity (L)	Dimensions(mm)			Total Power (kW)	Weight(kg)	
			L	W	H		Empty	Operation
CS-600	600	40	1500	830	1700	0.87	180	780
CS-1100	1100	60	1740	1120	1800	0.87	240	1340
CS-1500	1500	60	2230	1110	1830	1.11	260	1760
CS-1900	1900	60	2750	1325	1830	1.11	280	2180
CS-3000	3000	60	2980	1280	1990	1.47	350	3350
CS-4200	4200	60	2990	1560	2100	1.47	600	4800
CS-5600	5600	60	3520	1560	2275	2.57	850	6450
CS-9000	9000	60	4370	1870	2490	2.57	1750	10750

*Polymer dosing pump is not included within the scope of supply of this product. We will select the corresponding pump based on your requirement. Please, consult us.
*Regarding throughput specifications that are not listed on this catalog (9000L/h MAX), please contact us and let us know your specific requirements.

Manpower reduction by full automatic operation

As long as the hopper with polymer is refilled, all troublesome measuring and dissolving tasks can be performed automatically, and a consistent concentration of polymer solution is supplied.
In addition, compared to manual dissolving, lumps are less likely to be formed, so the polymer is not wasted.

Polymer
Hybrid V Series

Water Treatment Chemicals

Polymer Hybrid V series are official VOLUTE DUO and VOLUTE polymers. These chemicals have an excellent flocculation effect and are suitable for various types of technologies used at wastewater treatment plants, such as sludge dewatering, dissolved-air floatation (DAF) systems, and chemical precipitation systems. The Hybrid V has anionic, cationic, nonionic, and amphoteric flocculants. These flocculants also come in three different forms: emulsion, dispersion, and powder.

Comparison between emulsion, dispersion, and powder

	Emulsion (Polymer with 40% active content)	Dispersion (Easy to handle without oil or surfactant)	Powder (More economical than liquid type)
			
Dissolution time	5 – 30 minutes	3 – 10 minutes	1 hour
Dilution ratio	1:200 to 1:800 (The standard ratio is 1:400.)	1:50 to 1:200 (The standard ratio is 1:100.)	1:500 to 1:2000 (The standard ratio is 1:1000.)
Packing	10 kg/box or 1-ton container	10 kg/box	10 kg/bag or 15 kg/bag

Product Lineup(Excerpt)

Type	Product Code	Primary Component	Ionicity
Emulsion	HB-6055	Polyacrylamide	Medium anion
	HB-7100	Polyacrylic acid ester	Medium cation
	HB-7175	Polyacrylic acid ester	Strong cation
	HB-8042	Polyacrylic acid ester	Amphoteric
	HB-8045	Polyacrylic acid ester	Amphoteric
	Emulsion has excellent solubility and dissolves in water in 1/6 of the time required for powders to dissolve, so they will be ready for use in a shorter time. Emulsion hardly forms lumps and produces a uniform flocculant without waste. Unlike powdered flocculants, emulsion does not diffuse in the air and there is no risk of inhalation.		
Dispersion	HD-6310	Polyacrylamide	Strong anion
	HD-7310	Polyacrylic acid ester	Strong cation
	HD-7330	Polyacrylic acid ester	Cation
	Dispersion has excellent solubility, allowing for injection or addition in undiluted form. These chemicals contain no oil or surfactant and as such, are easy to handle. They are not affected by flocculation inhibition in sodium-rich wastewater.		
Powder	HF-6520	Polyacrylamide	Weak anion
	HF-7510	Polyacrylic acid ester	Strong cation
	HF-8530	Polyacrylic acid ester	Amphoteric
	We offer a broad product lineup to meet various requirements.		

Inorganic coagulants
Polyferric Sulfate



Polyferric Sulfate

Inorganic coagulant is suitable for various types of wastewater treatment processes, such as sludge dewatering, dissolved-air floatation systems, and chemical precipitation systems.

Inorganic coagulant can be used not only to coagulate substances, but also to remove phosphorus, BOD, COD, and heavy metals, and avoids producing hydrogen sulfide.

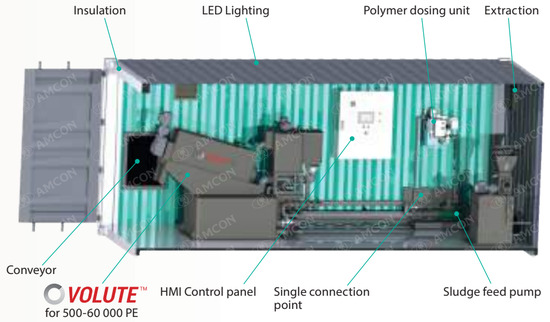
All In One

All the necessary equipment for sludge dewatering combined into one

The sludge dewatering truck and the container-type sludge dewatering unit combine all the necessary equipment for sludge dewatering into a single unit.

Containerized Sludge Dewatering Unit

This plug & play containerized sludge dewatering unit provides the wastewater treatment facility with a unique all-in-one and ready-to-use experience in sludge treatment. Its major advantages are: it is fully mobile, eliminates construction cost and administration works for construction permit, provides operator-friendly environment with heater and ventilation system as standard furnishing. The best plug-and-play experience for you. Its compactness (occupies only 30㎡) and low maintenance makes it a preferable choice in constructing a new sludge dewatering building.



Mobile Dewatering Truck

Everything necessary for mobile sludge treatment in one package. The initial cost can be kept lower than installing sludge treatment systems at multiple locations. Equipment layout can also be arranged.



Case Studies

Model	MS-204※
Customer	Sewage Treatment Facility
Drainage Type	Sewage
Sludge Type	Excess Sludge(Directly Dewatered from OD)
Sludge Concentration	0.3%
Throughput Flow Rate	10.5㎥/h
Dry Solid Throughput	31.5kg-DS/h
Sludge Cake Water Content	80.7%
Dry Solids Recovery Rate	97.6%

※Products Offered Only in Japan

Model	EC-202+SP-3×2台
Customer	Rural Community Sewerage
Drainage Type	Domestic Wastewater
Sludge Type	Excess Sludge
Sludge Concentration	0.6%
Throughput Flow Rate	2.1㎥/h
Dry Solid Throughput	12.6kg-DS/h
Dried Cake Water Content	47.8%
Dry Solids Recovery Rate	97.2%

Model	ES-303
Customer	Septic Tank Sludge Treatment Plant (Philippines, Cebu)
Drainage Type	Domestic Wastewater
Sludge Type	Sewage Sludge
Sludge Concentration	2.2%
Throughput Flow Rate	5.6㎥/h
Dry Solid Throughput	123kg-DS/h
Sludge Cake Water Content	75.0%
Dry Solids Recovery Rate	97.1%

Model	ES-351
Customer	Water Treatment Plant
Drainage Type	—
Sludge Type	Chemical Precipitation Sludge
Sludge Concentration	5.3%
Throughput Flow Rate	2.4㎥/h
Dry Solid Throughput	127kg-DS/h
Sludge Cake Water Content	82.8%
Dry Solids Recovery Rate	98.0%

Model	GS-201
Customer	Poultry Processing Plant
Drainage Type	Wastewater from Broiler
Sludge Type	Excess Sludge
Sludge Concentration	0.5%
Throughput Flow Rate	2.8㎥/h
Dry Solid Throughput	14.0kg-DS/h
Sludge Cake Water Content	83.1%
Dry Solids Recovery Rate	95.2%

Model	EC-132(Containerized)
Customer	Salmon Farm
Drainage Type	Recirculating Aquaculture System
Sludge Type	Raw Water
Sludge Concentration	0.16～0.35%
Throughput Flow Rate	1.2㎥/h
Dry Solid Throughput	4kg-DS/h
Sludge Cake Water Content	74～80%
Dry Solids Recovery Rate	97.2%

Model	ES-353
Customer	Waste Disposal Facility
Drainage Type	—
Sludge Type	Digested Sludge
Sludge Concentration	2.0%
Throughput Flow Rate	10㎥/h
Dry Solid Throughput	200kg-DS/h
Sludge Cake Water Content	81.9%
Dry Solids Recovery Rate	97.0%

Model	GS-301+K-12520A
Customer	Cosmetics Manufacturing Plant
Drainage Type	Manufacturing Wastewater
Sludge Type	Froth Floatation Sludge
Sludge Concentration	1.0%
Throughput Flow Rate	2.5 ㎥/h
Dry Solid Throughput	25kg-DS/h
Dried Cake Water Content	40.6%
Dry Solids Recovery Rate	97.4%

Model	EC-203
Customer	Electronic Components Manufacturing Plant
Drainage Type	Manufacturing Wastewater
Sludge Type	Froth Floatation Sludge +Excess Sludge
Sludge Concentration	1.3%
Throughput Flow Rate	2.8㎥/h
Dry Solid Throughput	35.8kg-DS/h
Sludge Cake Water Content	85.0%
Dry Solids Recovery Rate	96.0%

Model	HR-241
Customer	Home Appliance Manufacturing Plant
Drainage Type	Manufacturing Wastewater
Sludge Type	Chemical Precipitation Sludge
Sludge Concentration	4.2%
Throughput Flow Rate	0.7㎥/h
Dry Solid Throughput	29.6kg-DS/h
Sludge Cake Water Content	77.5%
Dry Solids Recovery Rate	90.0%

Model	HR-241
Customer	Paper Recycling Plant
Drainage Type	Wastewater from molding recycled paper
Sludge Type	Chemical Precipitation Sludge
Sludge Concentration	1.4%
Throughput Flow Rate	0.8㎥/h
Dry Solid Throughput	11.2kg-DS/h
Sludge Cake Water Content	76.8%
Dry Solids Recovery Rate	99.5%

Model	ES-354
Customer	Whiskey Manufacturing Plant
Drainage Type	—
Sludge Type	Effluents
Sludge Concentration	4%
Throughput Flow Rate	21㎥/h
Dry Solid Throughput	840kg-DS/h
Sludge Cake Water Content	70.0%
Dry Solids Recovery Rate	99.0%

AMCON INC.

HEAD OFFICE
- 1926, Nippa-cho, Kohoku-ku, Yokohama, Kanagawa 223-0057,Japan
  TEL.+81-45-540-8580　FAX.+81-45-540-8588

ASSEMBLY FACTORY
- 2350-5, Nippa-cho, Kohoku-ku, Yokohama, Kanagawa 223-0057, Japan

KANSAI OFFICE
- 2-9-30-104, Maikodai, Tarumi-ku, Kobe, Hyogo 655-0046, Japan
  TEL : +81-78-798-7963

SAPPORO OFFICE
- 14-1-31 Minami 10-jo Nishi, Chuo-ku, Sapporo, Hokkaido 064-0810, Japan

Amenity Convenience
AMCON®

https://www.amcon-jp.com

AMCON INC.

Overseas Offices Abroad

CHINA
- AMCON (Fujian) Environmental Protection Equipment Co., Ltd. Head Office・Factory
  Yuan Hai Three-way, Yuan Hong Investment Zone, Fuqing, Fujian, 350314, China
  TEL.+86-591-85553843
  https://www.amcon-china.com/

CZECH REPUBLIC
- AMCON Europe s.r.o
  Za Trati 207,252 19 Chrastany,Praha-zapad,Czech Republic
  TEL.+420-211-150-125
  https://www.amcon-eu.com/

INDIA
- AMCON-SBS INDIA PRIVATE LIMITED
  C-45, Electronic Sadan-1, TTC Industrial Area,
  MIDC Mahape, Navi Mumbai-400710, India
  TEL.+91-22-27610797

PHILIPPINES
- AMCON PHILIPPINE REPRESENTATIVE OFFICE

2026.06