

VOLUTE™ **VOLUTE DUO™**

SLUDGE DEWATERING

SOLUTIONS

PRODUCT CATALOGUE

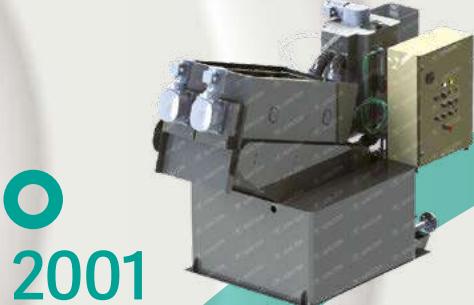


AMCON

Our Corporate Philosophy is to “Provide Amenity and Convenience Beyond Expectation”

We introduced the VOLUTE™ Dewatering Press in 1991 and revolutionized the screw press sector again in 2021 with our VOLUTE DUO™.

Today, our products have been delivered to more than 6,000 wastewater treatment facilities in more than 78 countries and regions around the world. With our global expertise and distributors in over 15 countries and regions, we are ready to solve our customers' sludge dewatering problems.



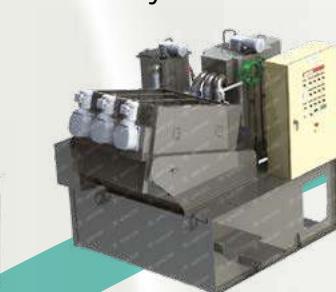
2001 VOLUTE™ Dewatering Press EC Series

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.



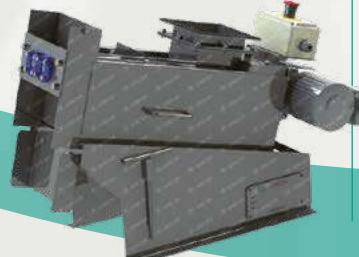
2003 Sludge Dewatering and Drying System SP Series

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



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).



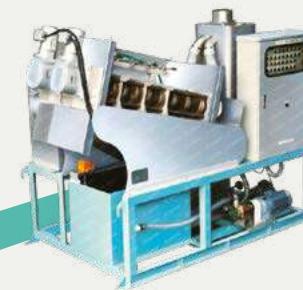
2004 Twin VOLUTE™ Dewatering Press TV Series

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 circuit boards.



1996 Sludge Dewatering and Fermentation System "Dell Compo" DC Series

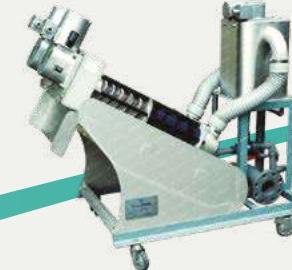
Taking up the challenge to not only reduce sludge volume but also to utilize it, we developed a system that can perform both dewatering and fermentation of sludge. This system achieves zero emissions of sludge and promotes local production and consumption.



1992 VOLUTE™ Dewatering Press TS Series

VOLUTE™ Dewatering Press TS Series

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



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 thickening and dewatering machine that didn't require rinsing water.

2009 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.



2012 VOLUTE™ Dewatering Press VDS serie

The first creation of a contactless cylinder: moving rings are driven by an external shaft.



1982



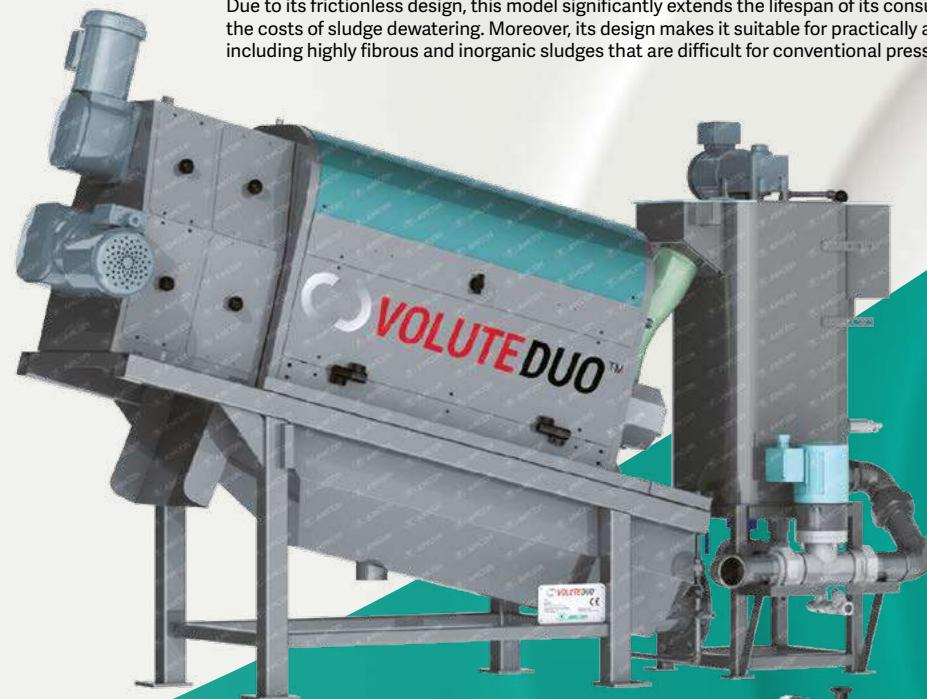
"AMCON Belt-press-type Sludge Thickener"
KM Series

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.

2021

VOLUTE Next Generation Model VOLUTE DUO™
Dewatering Press RVP Series

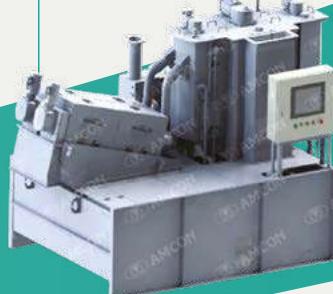
Due to its frictionless design, this model significantly extends the lifespan of its consumables, reducing the costs of sludge dewatering. Moreover, its design makes it suitable for practically any sludge, including highly fibrous and inorganic sludges that are difficult for conventional presses to handle.



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.



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 for low concentration sludge.



2019



VOLUTE™ Dewatering Press FS Series

Upgrading the ES Series to the latest industry standards, the control panel was fitted with touch screen and remote-control options. Furthermore, to maximize performance and minimize downtime, several autonomous control modes were incorporated. This allowed for even more user-friendly and continuous operation.

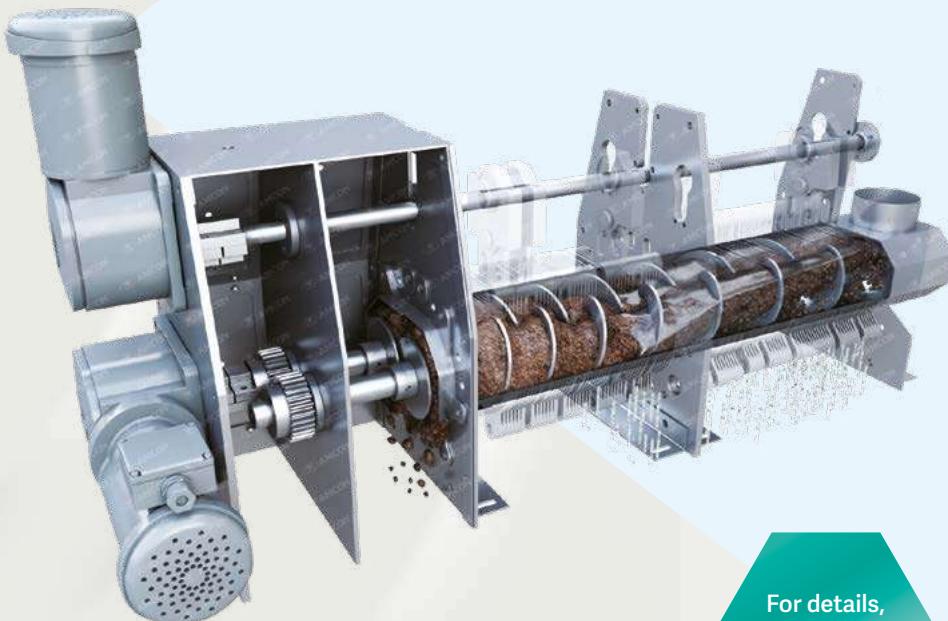
VOLUTE™ Dewatering Press MW Series

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

Advantages of VOLUTE™ and VOLUTE DUO™

Dewatering Press VOLUTE DUO™

 **VOLUTE DUO™**



For details,
head to
page 6-9

Easy operation & maintenance

- Intuitively understandable operation system
- 24h unattended operation without daily maintenance
- Programmable start and stop
- Option to receive notifications and access the control panel remotely
- Prompt support from our after-sales team and local partners

Water saving

- Unique self-cleaning mechanism prevents clogging of the filtration unit
- No need for large amounts of high pressure rinsing water

High resistance to oily sludge

- No clogging when dewatering high oil content sludge thanks to the self-cleaning mechanism

Comfortable work environment

- Low noise and low vibration thanks to low speed of rotating parts
- Safe and hygienic operations thanks to sealed compartments
- Compact design offering small footprint

Power saving

- Main screw of the machine rotates at 2 to 4 rpm, requiring very little energy
- No air compressor needed

■ Rinsing water usage comparison.
(Throughput of 45kg-DS/h)

 **VOLUTE™** | 0.05m³/h

 **VOLUTE DUO™** | 0.08m³/h

Filter Press | 0.2m³/h

Screw Press | 0.5m³/h

Centrifuge | 2.5m³/h

Belt Press | 4.6m³/h

■ Electricity usage comparison.
(Throughput of 45kg-DS/h)

 **VOLUTE™** | 1.35kW/h

Screw Press | 1.9kW/h

 **VOLUTE DUO™** | 3.05kW/h

Belt Press | 3.5kW/h

Filter Press | 6.5kW/h

Centrifuge | 14.7kW/h

*Researched by AMCON INC.

Service team available

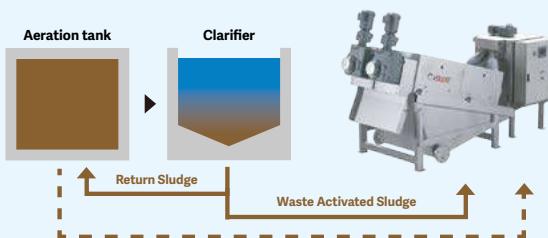
- Repair and after sales services based in Central Europe Czech Republic to reach you promptly
- Online support available in several languages
- Local partners in many European countries
- Two-year warranty with an option to extend to up to five years

No pre-thickening required

- Integrated thickening and dewatering into a single operation
- Direct dewatering of both low and high sludge concentrations (inlet TS from 0.2% to >10%)
- Possible dewatering of aerobic sludge straight from the aeration tank

Advantages of direct dewatering from the aeration tank

- Eliminates the costs for construction and operation of thickening and storage systems
- Odor reduction by dewatering fresh aerobic sludge
- Reduces phosphorus and nitrogen emissions back into the wastewater treatment plant, by dewatering the sludge when it's as fresh as possible

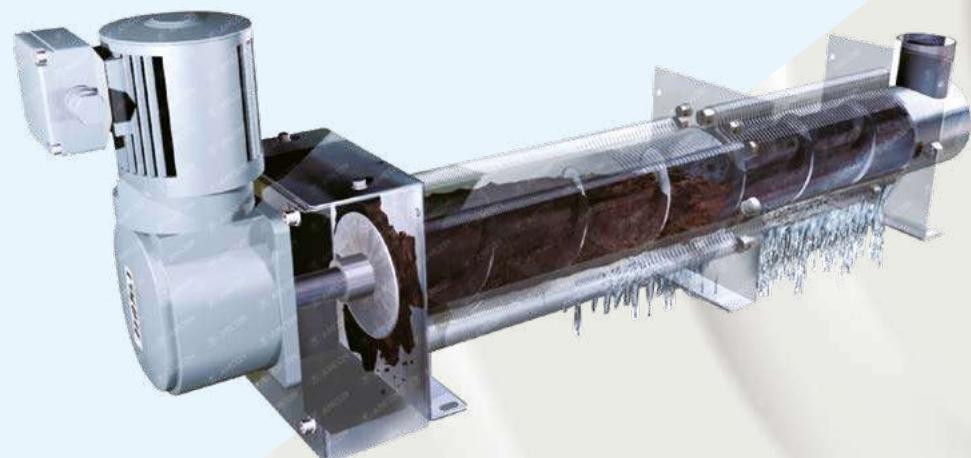


Suitable for various applications

- 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
- Plastic recycling plants
- Laundry wastewater plants, etc.

Dewatering Press VOLUTE™

VOLUTE™



For details,
head to
page 10-16

AMCON's Innovative VOLUTE DUO™ Screw Press for Convenient Sludge Dewatering

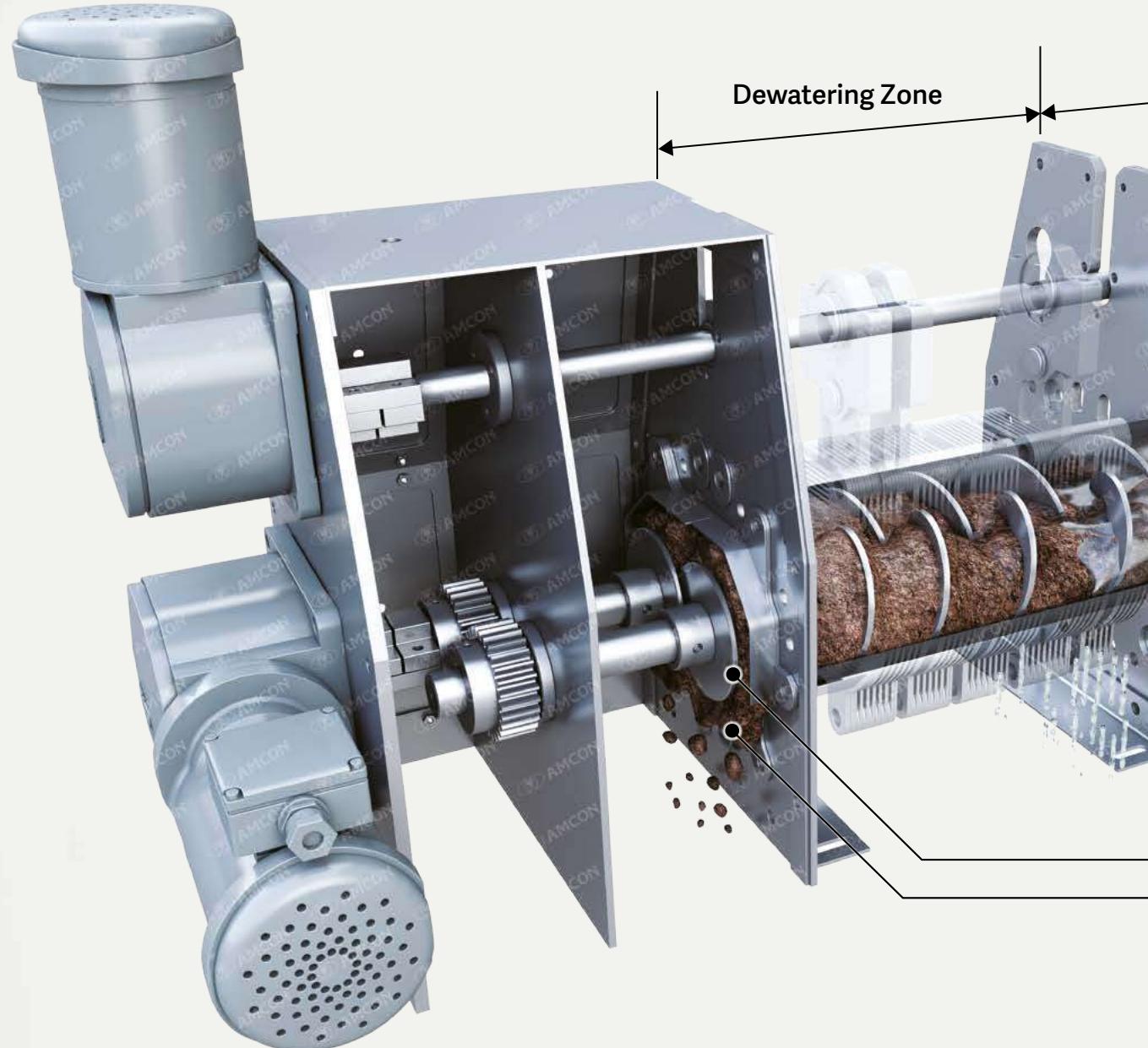
Clog-free self-cleaning mechanism

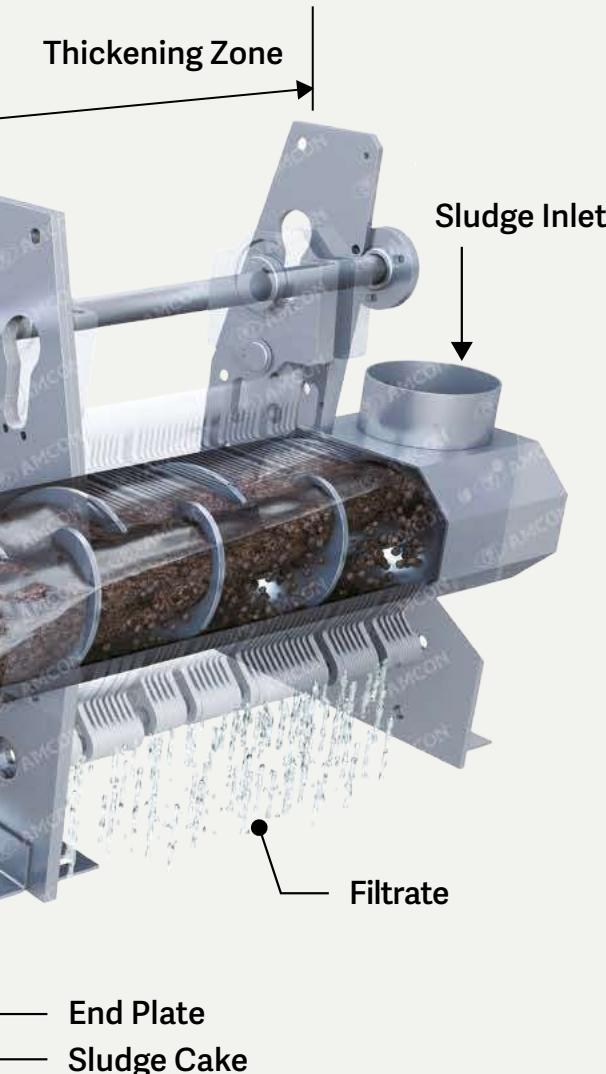
The heart of the machine is a cylinder that acts as a filter element. It consists of alternating layers of fixed and moving rings with a gap in between. Two screws running through the cylinder transfer and compact the sludge through the cylinder, squeezing out the water.

An external driveshaft ensures the constant movement of the rings, creating an elegant and sophisticated self-cleaning function. At the same time, the precise guidance of the moving rings prevents their contact with the surface of the screws.

This frictionless design greatly extends the lifetime of consumables.

All while maintaining the typical screw press benefits such as ultra low energy and rinsing water consumption compared to alternatives.



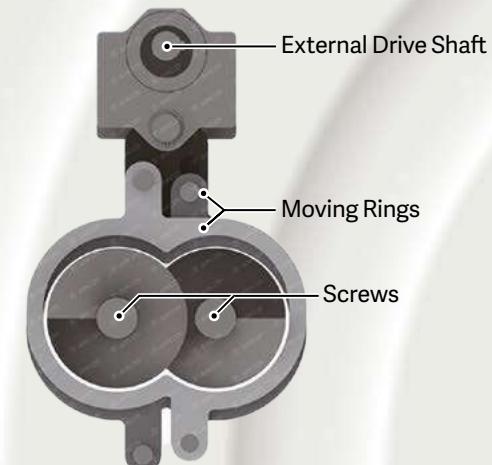
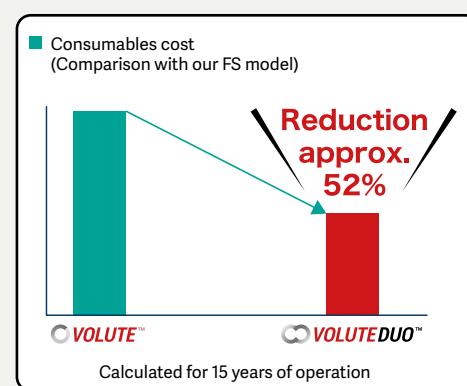


Applicable to a wide range of sludge types

The two screws rotate into each other, breaking up the solids while transferring and compacting them towards the outlet. This makes the machine close to impossible to block, even with highly fibrous or inorganic sludges.

Frictionless design significantly reduces the costs of consumables

Thanks to its frictionless design, this model significantly extends the lifespan of its consumables, reducing the costs of sludge dewatering by over 50%.



VOLUTE DUO™ Dewatering Press RVP Series

**Next-generation screw press,
a versatile VOLUTE™ model
for a wide range of sludge type**

Thanks to its frictionless design, this model significantly extends the lifespan of its consumables, reducing the costs of sludge dewatering by over 50%. Moreover, its design makes it suitable for practically any sludge, including highly fibrous and inorganic sludges.



PROCESS FLOW



1 Inline Mixer

Static or dynamic inline mixers significantly improve the mixing of sludge with polymer or coagulant.



2 Flocculation Tank

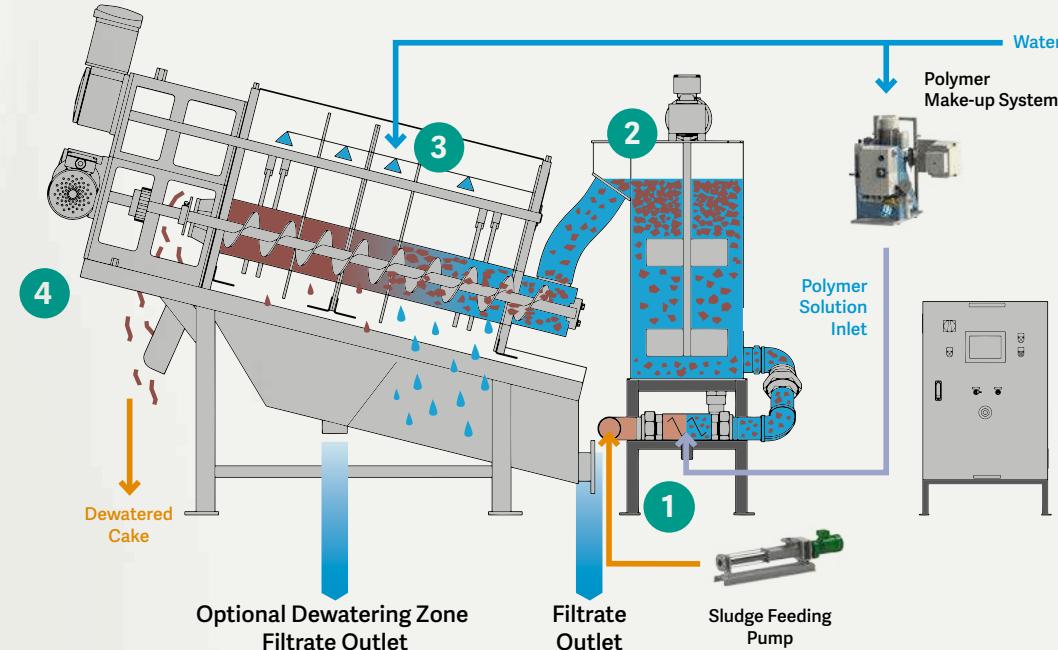
The agitated Flocculation Tank provides the necessary time for the sludge to react with the polymer solution to form strong flocs.



3 Cylinder Unit

Sludge is thickened in the thickening zone and dewatered in the dewatering zone with increased inner pressure.

* If a pilot test proves that no polymer is needed, it is possible to completely remove the flocculation tank. Please contact us for more details.



4 Cake Outlet

The adjustment of the gap between the end plate and the cylinder allows to set the optimum pressure in the cylinder and to achieve the highest dryness of the sludge cake.



CHECK!

Video of the process flow
can be viewed here.

Throughput / Specifications



Sludge type	Raw Wastewater / Waste Activated Sludge / Chemically Precipitated Sludge		Dissolved-air Flotation Sludge		Primary sludge, mixed primary & WAS, Rich fibre and inorganic sludge	Dimensions (mm)			Total Power (kW)	Weight (kg)	
	0.5%	1%	2%	5%		3%	L	W		Empty	Operation
Model \ Sludge Concentration (TS)											
RVP-241	8 kg-DS/h (~1.6 m³/h)	12 kg-DS/h (~1.2 m³/h)	20 kg-DS/h (~1 m³/h)	40 kg-DS/h (~0.8 m³/h)	50 kg-DS/h (~1.7 m³/h)	2255	1021	1362	0.87	390	450
RVP-381	20 kg-DS/h (~4 m³/h)	36 kg-DS/h (~3.6 m³/h)	60 kg-DS/h (~3 m³/h)	120 kg-DS/h (~2.4 m³/h)	140 kg-DS/h (~4.6 m³/h)	3122	975	1563	1.2	1150	1550
RVP-501	40 kg-DS/h (~8 m³/h)	60 kg-DS/h (~6.0 m³/h)	100 kg-DS/h (~5.0 m³/h)	200 kg-DS/h (~4.0 m³/h)	230 kg-DS/h (~7.6 m³/h)	4104	1024	2255	1.86	1800	2300
RVP-601	80 kg-DS/h (~16 m³/h)	120 kg-DS/h (~12 m³/h)	200 kg-DS/h (~10 m³/h)	400 kg-DS/h (~8 m³/h)	460 kg-DS/h (~15 m³/h)	4918	1200	2612	3.05	2825	3625
RVP-701	130 kg-DS/h (~26 m³/h)	180 kg-DS/h (~18 m³/h)	300 kg-DS/h (~15 m³/h)	600 kg-DS/h (~12 m³/h)	770 kg-DS/h (~27 m³/h)	5234	1448	2746	3.37	3800	4900
RVP-702	260 kg-DS/h (~52 m³/h)	360 kg-DS/h (~36 m³/h)	600 kg-DS/h (~30 m³/h)	1200 kg-DS/h (~24 m³/h)	1540 kg-DS/h (~54 m³/h)	5948	2530	2746	6.34	7330	9280

- Above throughput is calculated as approximate and may vary depending on sludge conditions. For model selection, please contact AMCON
- The throughput of each model is based on a sludge cake with a dry solids content of 20% to 65%, depending on the sludge characteristics
- There is no definite upper limit on inlet sludge concentration; however, the target sludge must be flowable
- All the figures above are provided for the reference purpose only based on the standard design. The design may change without notice

Please contact AMCON for the latest information.

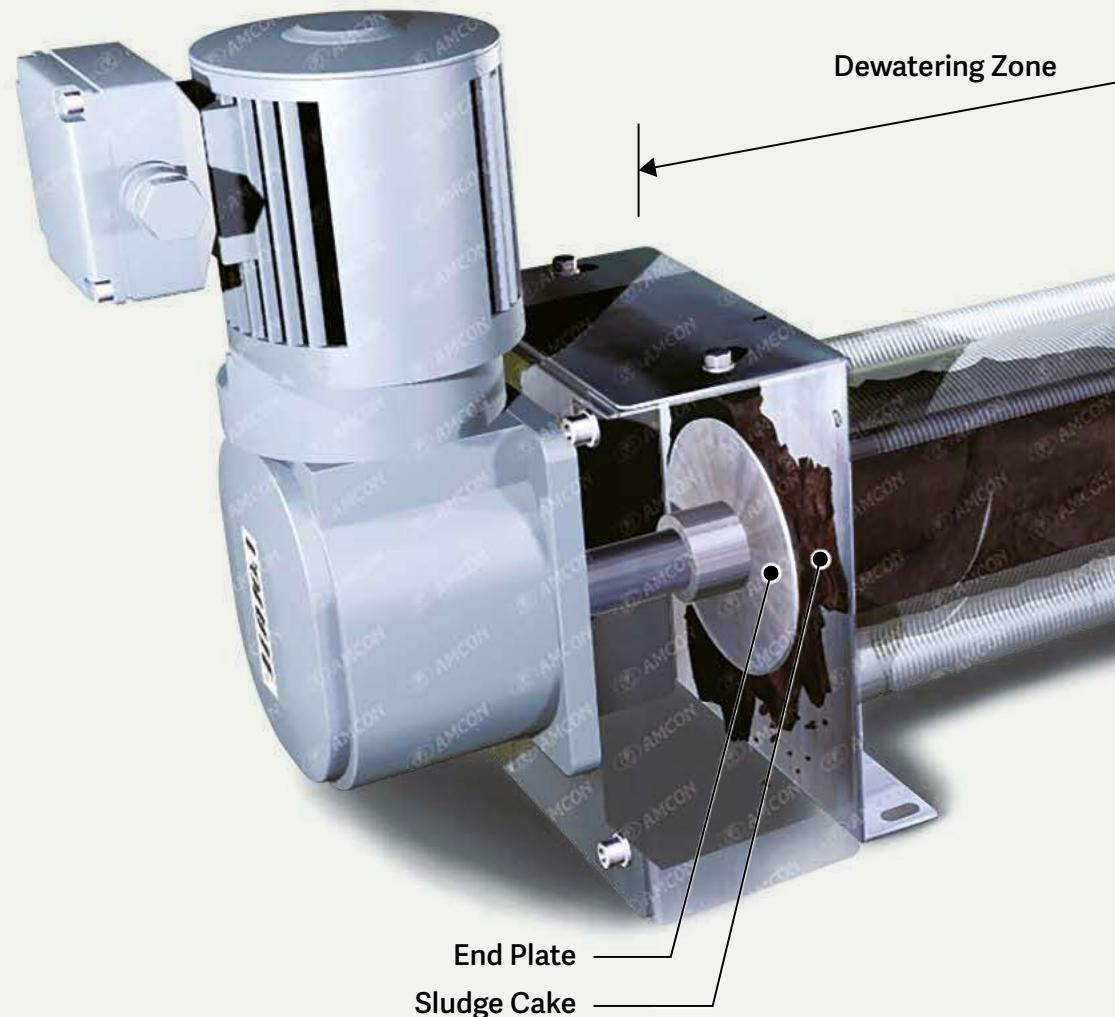
Standard Model, Offering a Proven Reliable Performance and User-Friendly Operation

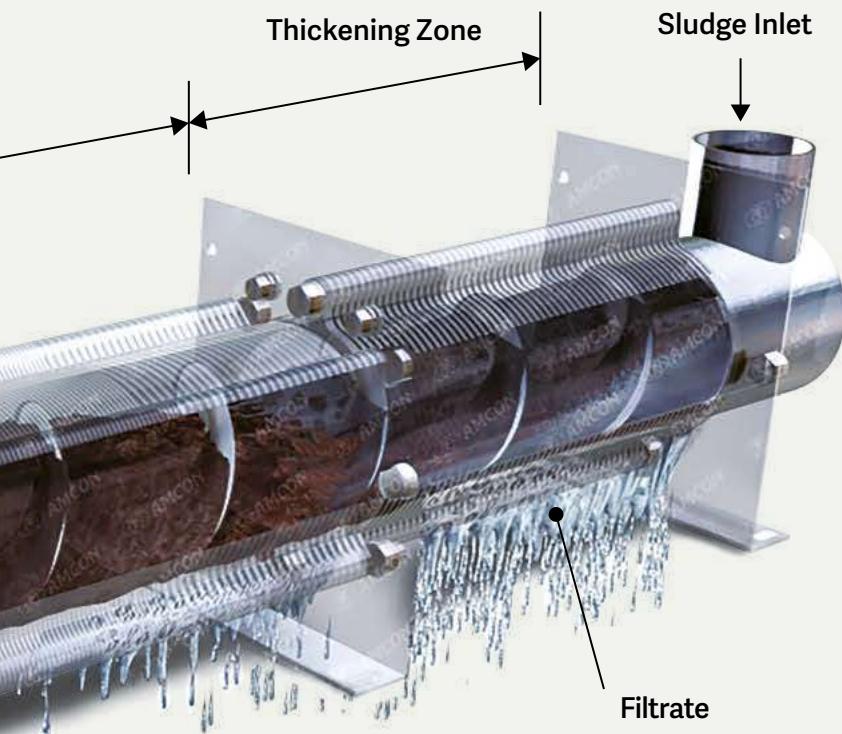
Clog-free self-cleaning mechanism

The press has a filter element (cylinder) that consists of alternating layers of Fixed Rings and Moving Rings, with spacers in between to maintain a gap that allows the filtrate to escape.

Inside the cylinder, a single screw conveys and subsequently pressurizes the sludge through the cylinder towards the end plate. As the screw rotates, it drives the moving rings up and down, which cleans the filtrate gap, creating a clog-free and self-cleaning mechanism.

Only a very small amount of water at low pressure is periodically used to gently clean the rings from the outside. The design delivers stable dewatering performance even with oily sludge.



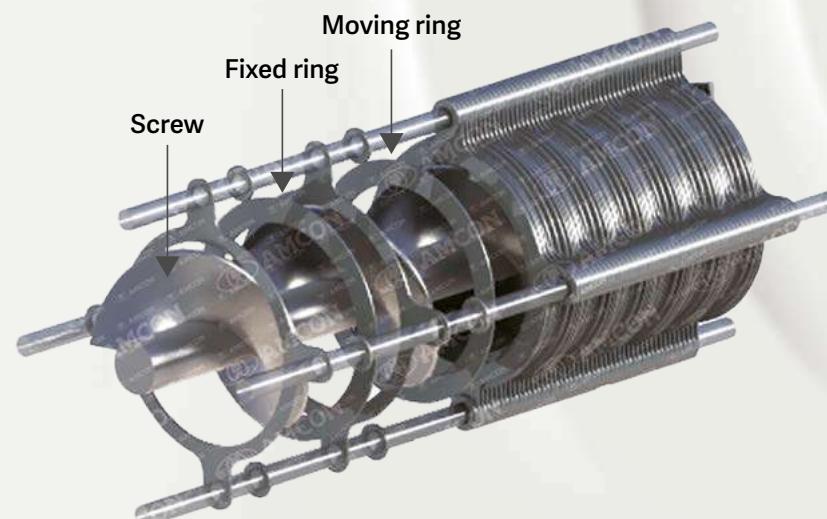


Expandable throughput

The throughput of VOLUTE™ can be easily expanded with its Cylinder Unit. If you know your sludge dewatering needs will increase in the future, you can purchase any VOLUTE™ unit with a multi-cylinder frame, and add the cylinder unit later. This avoids higher initial costs.



Additional cylinder



VOLUTE™ Dewatering Press GS Series

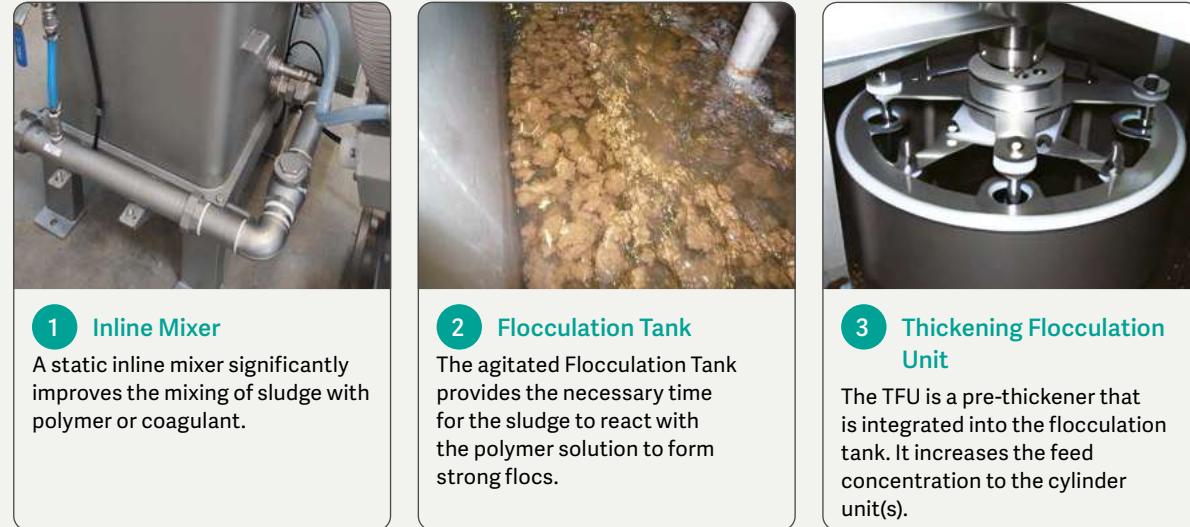
Sludge dewatering performance is greatly improved with a TFU

This model offers an additional thickening step integrated into the flocculation tank, called the Thickening Flocculation Unit (TFU), enabling it to handle even lower concentration sludge and raw wastewater without compromising throughput or cake dryness. Compared to our standard FS series, the TFU increases the capacity by up to 50% for low concentration sludges.



VOLUTE™

PROCESS FLOW



1 Inline Mixer

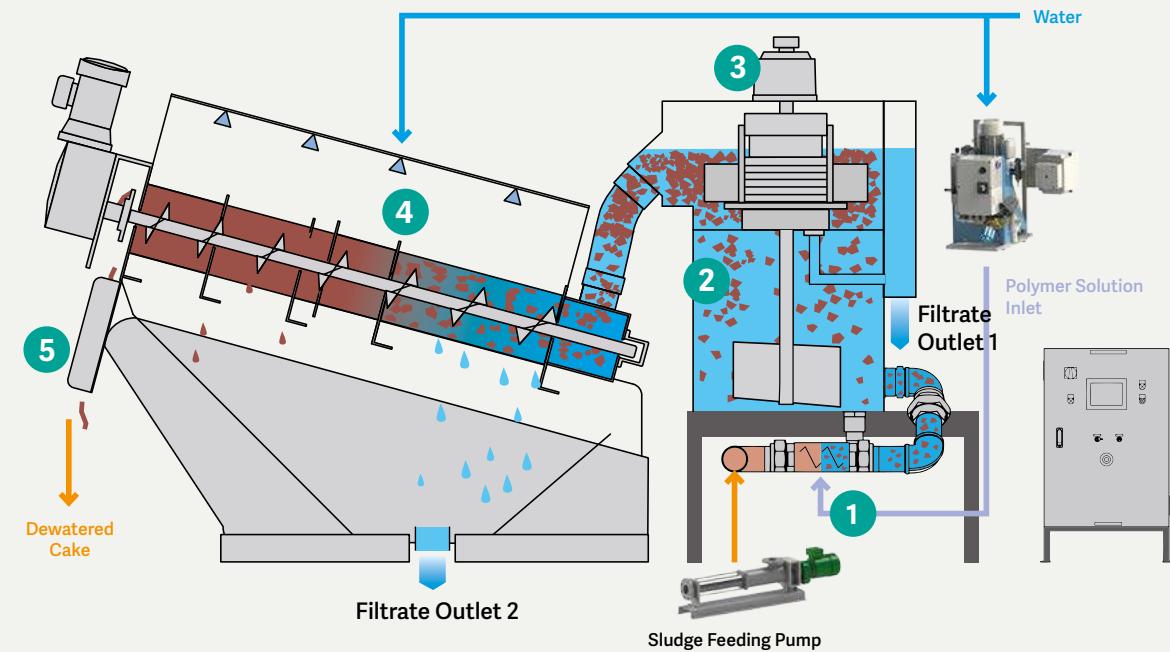
A static inline mixer significantly improves the mixing of sludge with polymer or coagulant.

2 Flocculation Tank

The agitated Flocculation Tank provides the necessary time for the sludge to react with the polymer solution to form strong flocs.

3 Thickening Flocculation Unit

The TFU is a pre-thickener that is integrated into the flocculation tank. It increases the feed concentration to the cylinder unit(s).



**CHECK!**Video of the process flow
can be viewed here.**4 Cylinder Unit**

Sludge is further thickened in the thickening zone and dewatered in the dewatering zone by increasing the internal pressure.

**5 Cake Outlet**

The adjustment of the gap between the end plate and the cylinder allows to set the optimum pressure in the cylinder and to achieve the highest dryness of the sludge cake.

Throughput / Specifications

VOLUTE™

Model	Raw Wastewater / Waste Activated Sludge / Chemically Precipitated Sludge		Dimensions (mm)			Total Power (kW)	Weight (kg)		
	Sludge Concentration (TS)	0.2%	1.0%	L	W	H	Empty	Operation	
GS-101		~3 kg-DS/h (~1.5 m ³ /h)	~4.5 kg-DS/h (~0.45 m ³ /h)	1801	896	1221	0.3	350	475
GS-131		~6 kg-DS/h (~3.0 m ³ /h)	~9 kg-DS/h (~0.9 m ³ /h)	1946	896	1221	0.3	360	490
GS-132		~12 kg-DS/h (~6.0 m ³ /h)	~18 kg-DS/h (~1.8 m ³ /h)	1946	896	1221	0.4	440	575
GS-201		~13 kg-DS/h (~6.5 m ³ /h)	~20 kg-DS/h (~2.0 m ³ /h)	2405	896	1322	0.4	505	650
GS-202		~26 kg-DS/h (~13.0 m ³ /h)	~40 kg-DS/h (~4.0 m ³ /h)	2625	1097	1753	0.8	1055	1320
GS-301		~30 kg-DS/h (~15.0 m ³ /h)	~45 kg-DS/h (~4.5 m ³ /h)	3173	1072	1763	0.8	995	1285
GS-302		~60 kg-DS/h (~30.0 m ³ /h)	~90 kg-DS/h (~9.0 m ³ /h)	3473	1342	1780	1.55	1575	2255
GS-351		~60 kg-DS/h (~30.0 m ³ /h)	~90 kg-DS/h (~9.0 m ³ /h)	3898	1292	2241	2.25	1805	2455
GS-352		~120 kg-DS/h (~60.0 m ³ /h)	~180 kg-DS/h (~18.0 m ³ /h)	4384	1555	2337	5.2	3050	4250

- Above throughput is calculated as approximate and may vary depending on sludge conditions. For model selection, please contact AMCON
- The throughput of each model is based on a sludge cake with 20 ± 5 % solids content
- All the figures above are provided for the reference purpose only based on the standard design. The design may change without notice

Please contact AMCON for the latest information.

VOLUTE™ Dewatering Press FS Series

Our standard model offers proven reliable dewatering and a user-friendly operation, with an exceptional build-quality.

This model offers all the usual VOLUTE™ benefits such as 24/7 automated operation, power-saving, water-saving, and low noise. Same as on all our units, it comes with advanced control modes which enable the most optimal and stable dewatering performance.

The model size ranges from 100 to 200 000 PE.



VOLUTE™



CHECK!

Video of the process flow
can be viewed here.

PROCESS FLOW



1 Flocculation Tank

The agitated Flocculation Tank provides the necessary time for the sludge to react with the polymer solution to form strong flocs.



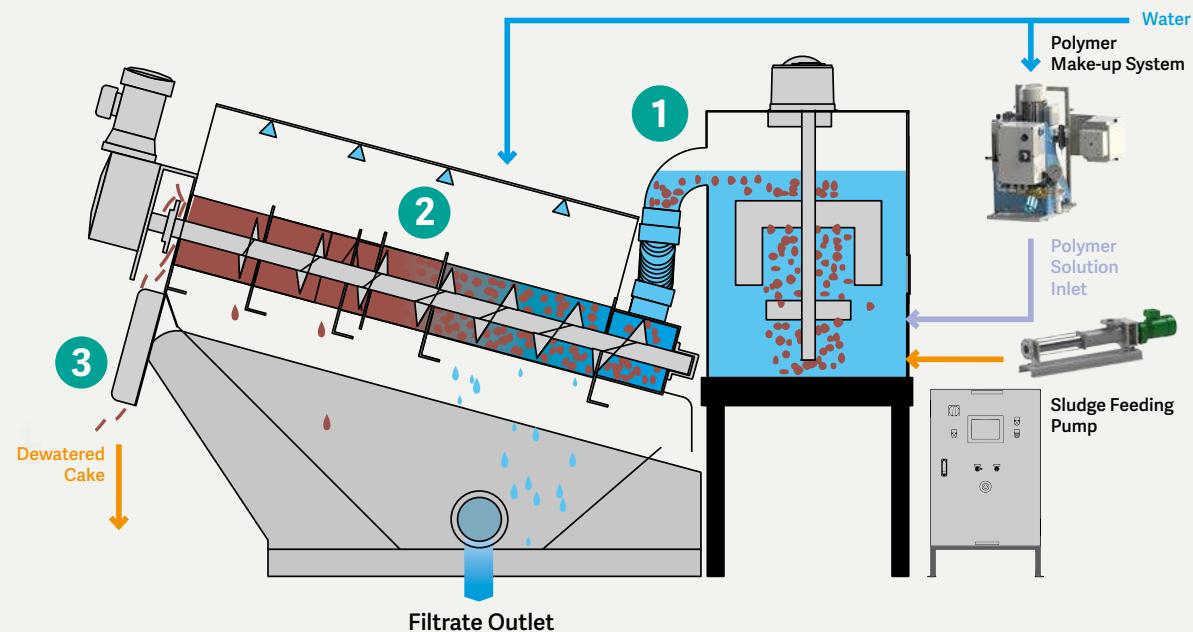
2 Cylinder Unit

Sludge is thickened in the thickening zone and dewatered in the dewatering zone by increasing the internal pressure.



3 Cake Outlet

The adjustment of the gap between the end plate and the cylinder allows to set the optimum pressure in the cylinder and to achieve the highest dryness of the sludge cake.



Throughput / Specifications

Model	Raw Wastewater / Waste Activated Sludge / Chemically Precipitated Sludge		Dissolved-air Flotation Sludge		Mixed Raw Sludge (Sewage Sludge)	Dimensions (mm)			Total Power (kW)	Weight (kg)	
	Sludge Concentration (TS)	0.2%	1.0%	2.0%	5.0%	3.0%	L	W	H	Empty	Operation
FS-051	0.5 kg-DS/h (~0.25 m³/h)	1kg-DS/h (~0.1 m³/h)	2kg-DS/h (~0.1 m³/h)	4kg-DS/h (~0.08 m³/h)	5kg-DS/h (~0.17 m³/h)	1095	738	1100	0.2	155	175
FS-101	2kg-DS/h (~1.0 m³/h)	3kg-DS/h (~0.3 m³/h)	5kg-DS/h (~0.25 m³/h)	~10 kg-DS/h (~0.2 m³/h)	~13 kg-DS/h (~0.43 m³/h)	1706	728	1205	0.2	260	320
FS-131	4kg-DS/h (~2.0 m³/h)	6kg-DS/h (~0.6 m³/h)	10kg-DS/h (~0.5 m³/h)	~20 kg-DS/h (~0.4 m³/h)	~26 kg-DS/h (~0.87 m³/h)	1861	728	1205	0.2	270	335
FS-132	8kg-DS/h (~4.0 m³/h)	12kg-DS/h (~1.2 m³/h)	20kg-DS/h (~1.0 m³/h)	~40 kg-DS/h (~0.8 m³/h)	~52 kg-DS/h (~1.74 m³/h)	1951	883	1205	0.3	370	585
FS-201	8kg-DS/h (~4.0 m³/h)	12kg-DS/h (~1.2 m³/h)	20kg-DS/h (~1.0 m³/h)	~44 kg-DS/h (~0.88 m³/h)	~57 kg-DS/h (~1.9 m³/h)	2340	843	1281	0.3	455	600
FS-202	16 kg-DS/h (~8.0 m³/h)	24 kg-DS/h (~2.4 m³/h)	40 kg-DS/h (~2.0 m³/h)	~88 kg-DS/h (~1.76 m³/h)	~114 kg-DS/h (~3.8 m³/h)	2436	1048	1563	0.8	905	1270
FS-301	20 kg-DS/h (~10.0 m³/h)	30 kg-DS/h (~3.0 m³/h)	50 kg-DS/h (~2.5 m³/h)	~100 kg-DS/h (~2.0 m³/h)	~130 kg-DS/h (~4.33 m³/h)	2954	970	1685	0.8	895	1185
FS-302	40 kg-DS/h (~20.0 m³/h)	60 kg-DS/h (~6.0 m³/h)	100 kg-DS/h (~5.0 m³/h)	~200 kg-DS/h (~4.0 m³/h)	~260 kg-DS/h (~8.67 m³/h)	3235	1285	1686	1.2	1395	2075
FS-351	40 kg-DS/h (~20.0 m³/h)	60 kg-DS/h (~6.0 m³/h)	100 kg-DS/h (~5.0 m³/h)	~200 kg-DS/h (~4.0 m³/h)	~260 kg-DS/h (~8.67 m³/h)	3654	1159	2241	1.87	1570	2170
FS-352	80 kg-DS/h (~40.0 m³/h)	120 kg-DS/h (~12.0 m³/h)	200 kg-DS/h (~10.0 m³/h)	~400 kg-DS/h (~8.0 m³/h)	~520 kg-DS/h (~17.3 m³/h)	3803	1458	2240	3.75	2710	3660
FS-401	65 kg-DS/h (~32.5 m³/h)	100 kg-DS/h (~10.0 m³/h)	180 kg-DS/h (~8.0 m³/h)	~320 kg-DS/h (~6.4 m³/h)	~416 kg-DS/h (~13.8 m³/h)	4464	1299	2245	2.25	1940	3250
FS-402	130 kg-DS/h (~65.0 m³/h)	200 kg-DS/h (~20.0 m³/h)	320 kg-DS/h (~16.0 m³/h)	~640 kg-DS/h (~12.8 m³/h)	~832 kg-DS/h (~27.7 m³/h)	4528	1624	2188	4.5	3380	4830
FS-403	195 kg-DS/h (~97.5 m³/h)	300 kg-DS/h (~30.0 m³/h)	480 kg-DS/h (~24.0 m³/h)	~960 kg-DS/h (~19.2 m³/h)	~1248 kg-DS/h (~41.6 m³/h)	4925	2250	2177	6.7	5300	7770
FS-404	260 kg-DS/h (~130.0 m³/h)	400 kg-DS/h (~40.0 m³/h)	640 kg-DS/h (~32.0 m³/h)	~1280 kg-DS/h (~25.6 m³/h)	~1664 kg-DS/h (~55.4 m³/h)	5445	3280	2240	9.0	7510	12360

- Above throughput is calculated as approximate and may vary depending on sludge conditions. For model selection, please contact AMCON
- Throughput of each model is based on sludge cake with 20±5% solids content
- There is no definite upper limit on inlet sludge concentration; however, the target sludge must be flowable
- All the figures above are provided for the reference purpose only based on the standard design. The design may change without notice

Please contact AMCON for the latest information.

VOLUTE™ Thickener VT Series

For continuous and consistent sludge thickening without interruption

This model thickens sludge from typically less than 1% to 4–6% or above. It will produce a consistent and stable thickened sludge which is difficult to obtain with gravity thickening and impossible to realize with a belt thickener on a similar small footprint. Installing this thickener can also be used to boost the capacity of existing dewatering units. The thickener is an effective way to reduce sludge volume while maintaining a semi-liquid and pumpable product.

Throughput / Specifications

Model	Throughput (m ³ /h)	Dimensions (mm)			Total Power (kW)	Weight (kg)	
		L	W	H		Empty	Operation
VT-101	~1	1772	901	1031	0.3	160	290
VT-131	~3	1772	901	1031	0.3	170	300
VT-201	~10	2436	901	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.

* Figures above are calculated as approximate and may vary depending on sludge condition. Please, contact us for model selection.



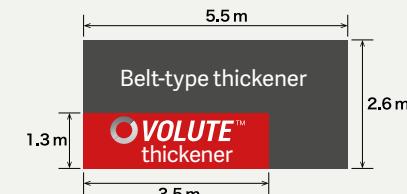
 **VOLUTE™**

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 a small footprint is required.

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.

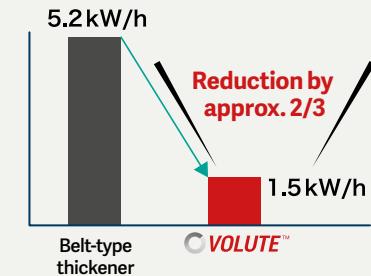


Power-saving operation

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 m³/h, the power consumption is reduced by approximately 2/3.

* Researched by AMCON INC.



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.

Plug & Play containerized solution

This ready-made containerized sludge dewatering solution provides the wastewater treatment facility with a unique all-in-one and ready-to-use experience. In addition to all the usual VOLUTE™ benefits, it is fully mobile, eliminates the costs and time of construction permits, provides an operator-friendly environment with heating and ventilation, and eliminates the hassle of procuring, installing and connecting all system components.

Mobile dewatering unit

Everything necessary for mobile sludge treatment in one package on a truck or in a trailer. The initial cost can be kept lower than installing sludge treatment systems at multiple locations. Equipment layout can also be adjusted.

VOLUTE™
VOLUTE DUO™



Polymer Make-up System

Polymore

For liquid polymer

Polymore units are arguably the European standard when it comes to in-line mixing and preparation systems for liquid polymer. It is manufactured by the Swedish company POLYMORE and characterized by a build-quality and reliability matching our VOLUTE™ units. The system fits perfectly with our technology in that it is compact, simple to operate, precise and delivers great results.

Specifications

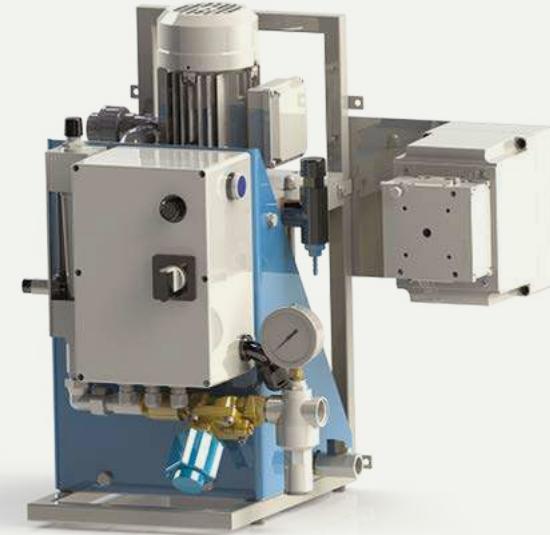
Model	Dissolving Capacity (at a 400-fold dilution)	Dimensions (mm)			Total Power (kW)	Weight (kg)	
		L	W	H		Empty	Operation
Mini2-0.2	36~80	520	425	535	0.12	25	32
Mini3-0.6	48~180	520	425	535	0.12	25	32
Mini5-1.2	96~300	520	425	535	0.12	25	32
Mini10-2.4	210~600	520	425	535	0.12	25	32
Mini30-3.0	210~1200	595	425	535	0.12	28	35
Duo40-6.0	210~2400	640	515	685	0.21	40	57
Duo65-9.0	240~3600	650	515	700	0.21	45	67
Midi100-12	240~4800	770	630	720	0.4	70	115
Midi160-24	480~9600	770	630	720	0.4	70	115
Midi175-38	760~10500	630	815	1020	0.4	90	168
Midi300-54	1200~18000	857	685	1650	0.4	110	188

• This is a non exhaustive list of models. Please, contact us for model selection

POLYMORE

No chemical dosing pump required

Polymore is an inline system that uses standard tap-water pressure to prepare and dose the polymer solution into the VOLUTE™. No need for a separate dosing pump reduces CAPEX and maintenance costs.



Small footprint

Polymore is a very compact solution for capacities ranging from 30 to 18000 L/h polymer solution. Despite its compactness, it still enables convenient accessibility for service and maintenance.

Example of installation



Installation on dedicated stand



Supplied with sludge dewatering press VOLUTE™ or VOLUTE DUO™



Wall-mounted

Easy operation

Simple and intuitive adjustment of dilution water amount and polymer concentration is all that is needed—the rest is automatic. The hardware and software in the VOLUTE™ control panel are designed to integrate seamlessly with Polymore, ensuring smooth cooperation between the two systems.

Polymer Make-up System Kozegho CS Series

For powder polymer

Kozegho's polymer preparation systems are reliable and cost efficient plug-and-play polymer preparation systems for powder polymers. The polymer make-up system is designed to automatically dilute powder polymer to a specific concentration. This device is beneficial either to sludge dewatering, or to various wastewater treatment processes, such as DAF.

Specifications

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	800	1700	0.9	180	980
CS-1100	1100	60	1740	1000	1800	0.9	240	1580
CS-1500	1500	60	2230	990	1830	1.2	260	1940
CS-1900	1900	60	2750	990	1830	1.2	280	4350
CS-3000	3000	60	2980	1210	1990	1.5	350	3900

* 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.

Kozegho
Kozegho dosing systems



Manpower reduction by full automatic operation

As long as the hopper is full of powder polymer, all tedious measuring and dissolving tasks are performed automatically, and a consistent concentration of polymer solution is provided. The automatic measuring and dissolving ensure optimal use of the polymer.

Mixers

Each chamber has its own mixer with quick-release coupling, 45 degree tetra blade propellers, all made from SS316.

Dry feeder

The HDPE hopper contains a center extraction screw, resistor-heated extraction tube to prevent lumps, transparent level-check window, and electronic level sensors.

YESfloc®

Chemical products for wastewater treatment and sludge dewatering

YESfloc® is the officially recommended polymer brand for VOLUTE™ and VOLUTE DUO™ dewatering presses and VOLUTE™ thickeners. AMCON is responsible not only for the craftsmanship and design of the machines, but also for their performance and their environmental impact. Thus we carefully select the most suitable flocculants for each dewatering application.

Let's stop creating more waste in waste treatment

We believe it is possible to have...

EFFECTIVE and yet AFFORDABLE polymer flocculant that doesn't pollute the Earth.

- YES, it is organic
- YES, it is biodegradable
- YES, it is non-hazardous
- YES, it works

YESfloc® polymers are available in three different forms: dispersion, emulsion and powder and different packing sizes.



You should get YESfloc® if you want to...

- Dewater and recover solids from distillery or brewery wastes and turn it into animal feed
- Dewater algae from a lake and return the filtrate straight back to the lake
- Dewater lagoon sludge and return the filtrate straight back to the lagoon
- Dewater digestates well and yet minimize polymer consumption
- Dewater waste activated sludge and return the solids to the field without environment impact of the polymer
- Dewater raw wastewater directly and separate suspended solids

It can be applied in different sectors: water treatment, cosmetics, textile, pulp and paper, oil and gas, mining, plastic recycling, food and agriculture industry, etc.

See how different YESfloc® is...

- Most YESfloc® products are GRAS approved
- High dewaterability
- Easy handling, some of the YESfloc® polymers work instantly
- Dispersion polymers use less water for their dilution than emulsion polymers
- Ecofriendly manufacturing process
- Dispersion polymers are free from surfactants, mineral oils and solvents

YESfloc® lineup

Polymer flocculants applicable for sludge dewatering, water and wastewater treatment with different acrylamide content, molecular weight, charge density, viscosity, and active content. We also have completely acrylamide free 100% flocculants to offer.

- **Cationic Water based Dispersion**

Cationic dispersion flocculants – useful for drinking water, wastewater, sludge, or any liquid waste. Complies with regulations to use the final sludge for agricultural purposes or land filling

- **Anionic Water based Dispersion**

Anionic dispersion flocculants – useful for drinking water, wastewater, sludge, or any liquid waste. They work well with a wide range of pH levels, avoiding the usage of neutralisation products

- **Amphoteric Water based Dispersion**

Amphoteric flocculants – high performance in systems with lack of homogenisation or where sludge quality changes frequently thanks to its structure of having both anionic and cationic functional groups in linear macromolecules

Other products

- **Anionic and Cationic oil emulsion**
- **Anionic and Cationic granular solid**



Services

Reliable, accurate, and unique

Lab jar test

We will analyze your sludge, wastewater, or liquid waste in our laboratory, and propose the right chemical product to your needs.



Consultation

Contact us to discuss your water, wastewater, sludge, or liquid waste treatment problems. Our specialists will advise you on the best possible solution.



On-site process optimization

By conducting an on-site visit, our engineers will give you a hand in wastewater treatment and sludge dewatering process optimization ultimately leading to an operating cost reduction.



Inline Dynamic and Static Mixers

The inline dynamic and static mixers were developed in cooperation with the Czech Technical University in Prague for the best practice with inline mixing in industrial processes.

The unique design of the mixing chamber provides high admixing efficiency and reduces the risk of blockage.

The inline mixing optimizes the admixing process thanks to a lower dilution ratio.

Dynamic mixer

Advantages

- Homogenous mixing result
- Significantly reduced risk of blockage
- Long lifespan
- Potential chemical saving by improving the mixing efficiency
- Installation and integration in existing processes

Applications

- Sludge and wastewater treatment
- Chemical industry
- Food and beverage
- Pharmacy
- Others

Options

- Dry run protection
- Thermistor to prevent motor overheating
- Material upgrade to AISI 316L, AISI 316Ti
- Variable-frequency drive (VFD)

Customer service

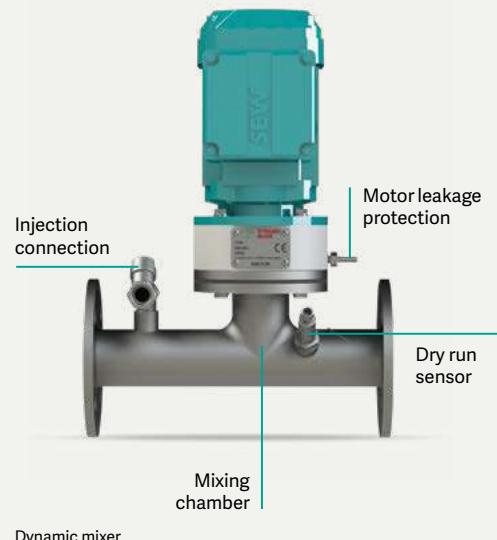
- Quick and easy spare parts service
- Reliable customer support
- Two-year warranty

Expected average results with inline dynamic mixer

Chemical consumption	-22%
Dry solids (dewatered sludge cake)	+ 6%
Capture rate (filtrate quality)	+ 3%
Throughput	+ 5%
Dilution water volume	Reduced

• Researched by AMCON Europe

• All the figures above are provided for the reference purpose only and they may vary depending on sludge type and conditions
Please contact AMCON for the latest information or model selection.



Dynamic mixer with built-in VFD

Some References

Municipal WWTP in Austria	
Model	DM50
Sludge type	WAS
Chemical consumption	-26%
Dry Solids	+ 11%

Municipal WWTP in Czech Republic	
Model	DM50
Sludge type	WAS
Chemical consumption	-27%
Dry Solids	+ 4.6%
Capture rate	+ 5%

Dynamic mixer – Technical sheet

Model	Capacity ¹ – Main substance (m ³ /h)	Capacity ¹ – Mixed substance (m ³ /h)	Power (kW)	Installation length (mm)	Connection type	Injection port size	Protection class	Rotation speed ² (rpm)	Material
DM40	10	0.7	0.37	300 / 430	Flange / Union	G 1/2" F-thread	IP55	300–1700	AISI 304
DM50	15	2	0.37	315 / 455	Flange / Union	G 1/2" F-thread	IP55	300–1700	AISI 304
DM80	35	4.5	0.75	385	Flange	G 3/4" F-thread	IP55	300–1700	AISI 304
DM100	60	6	1.1	435	Flange	G 1" F-thread	IP55	300–1700	AISI 304

• On request we can also produce bigger capacity dynamic mixers with DN 125, DN 150, DN 200 or DN 300

Please contact AMCON for the latest information or model selection.

Static mixer

- Reliable and continuous inline mixing
- Cost-effective admixing
- Energy-saving motionless design
- Wide range of application
- Two-year warranty



Static mixer – Technical sheet

Model	Capacity ¹ – Main substance (m ³ /h)	Capacity ¹ – Mixed substance (m ³ /h)	Installation length (mm)	Connection type	Injection port size	Material
SM40	4.5	0.7	370 / 500	Flange / Union	G 1/2" F-thread	AISI 304
SM50	20	2	370 / 510	Flange / Union	G 1/2" F-thread	AISI 304
SM80	48	4.5	500	Flange	G 3/4" F-thread	AISI 304
SM100	66	6	650	Flange	G 1" F-thread	AISI 304

• On request we can also produce bigger capacity static mixers with DN 100, DN 125, DN 150, DN 200 or DN 300

Please contact AMCON for the latest information or model selection.

1. The capacity is dependent on the concentration of the mixed substances.

2. The variable rotation speed is possible only with an application of the variable-frequency drive (VFD).

CMC – Microwave Total Solids Meter

Save on chemical products consumption when your sludge concentration is not constant

The CMC Total Solids Meter is an excellent tool for continuous Total Solids measurement in WWTP applications. With this measurement, the VOLUTE™ Control Panel can instruct either the feed pump to adjust the inlet flow or the polymer station to adapt the polymer dosing when sludge concentrations vary.

The Microwave TS Meter enables savings on polymer dosing and enhances process control

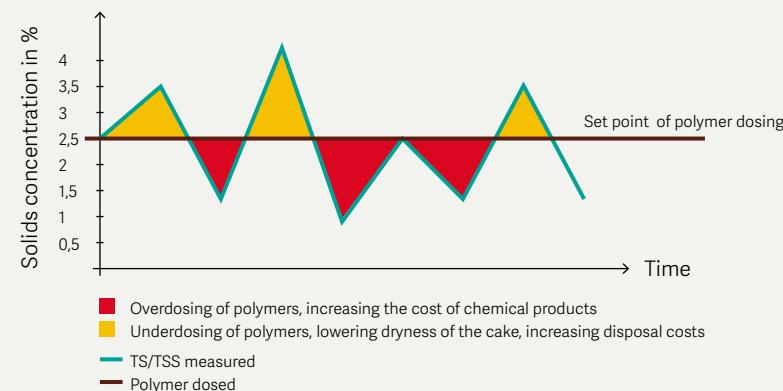
The sensor uses the reliable and well-tested measuring principle of microwave true-phase technology, utilizing 5 frequencies to achieve higher accuracy and automatic recovery after an empty pipe situation. The true-phase technology has a wide measurement range of TS concentrations. The rugged design without moving parts ensures high reliability and minimum maintenance. The microwave sensor is available in size DN50 to DN300.

Advantages

- Maintenance free tool
- Single point calibration for all concentrations
- Low installation and lifetime costs
- Reliable & accurate
- Not affected by process or media changes
- Easy-to-use display
- Wide TS measurement range

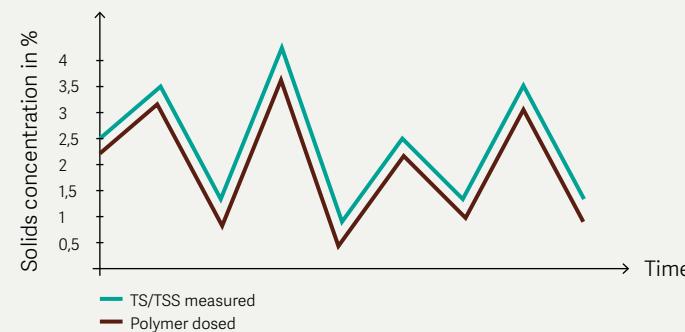


No TS/TSS meter



With varying concentrations of solids and a fixed polymer dosage set point, both overdosing and underdosing will occur, leading to increased costs.

With TS/TSS meter



By using a TS/TSS meter to monitor the variation of the concentration of solids, a predefined dose of polymer is always applied according to the measured amount of solids in the sludge. This prevents over- or under-dosing, resulting in cost savings.

ITX-IL Suspended Solids Sensor

The tool for effective process control

The ITX sensor is the economic version of the CMC, measuring the Suspended Solids rather than the Total Solids. It uses a single beam of pulsed NIR-light and an automatic cleaning system with built-in flushing nozzles to ensure accurate measurements with little maintenance. Similar to the CMC, its measurement allows the VOLUTE™'s Control Panel to instruct the feeding pump to adjust the inlet flow or the polymer station to adapt the polymer dosing accordingly.

Technical details

The sensor can be mounted in-line using a T-piece with isolation valve for applications up to 6 bar. Alternatively, it can be suspended from a telescopic rod or chain to measure the Suspended Solids in tanks.

Advantages

- User-friendly menu for calibration with lab test
- Automatic cleaning system with built-in flushing nozzles
- No moving parts
- Wide measuring range: min 0–100 mg/L and max 0–5% TS depending on type of sludge

Both sensors are combined and connected to a powerful Control Box that can support up to four different sensors for simultaneous operation. The user-friendly interface makes it easy to navigate. You can manage sensor calibration and settings in just a few simple steps.

The smart built diagnostic software is ensuring the functionality of each sensor with interactive feedback. The Relay outputs in the Control Box are used for high and low alarms or to provide a pulse for automatic cleaning.



Conveyors

General Features

Energy Efficiency

Low energy consumption thanks to optimized screw design and quality electric gearboxes. Power consumption starts from just 0.55 kW for the smallest models.



Trough Conveyors ESB-SC

Reliable and versatile solution for transporting bulk materials, including dewatered sludge or other adhesive materials. Their robust design guarantees long service life under continuous operation, while the simple construction ensures low maintenance and easy adaptation to project requirements.

Flexible Design Solutions

Choice between stationary, rotating, or mobile constructions and top- or bottom motor mounting, according to site-specific needs. Conveyor lengths can naturally be customised. Possibility to add container level sensors for fully automatic control of cake distribution. Possibility to choose from different types of discharge doors and inlet hoppers.



Belt Conveyors ESB-BC

Versatile and efficient transport solution for a wide range of materials. With fully customizable length, width, and inclination, they can be tailored to your project needs while ensuring smooth, reliable, and cost-effective operation.

Easy Operation and Maintenance

Proven and reliable designs focussed on easy inspection, maintenance and cleaning. E.g. with external bearing housings and soft packings.

Freeze Protection

For outdoor installations, heating with self-regulating heating cable and insulation is available, ensuring trouble-free operation even during winter months.



Tubular Screw Conveyors ESB-TC

Compact and fully enclosed conveying system designed for space- and cost-efficient transport of bulk materials. Especially suitable for powders and with the possibility of vertical transport. All the while minimizing dust and spillage.

Standard specifications of trough screw conveyors AMCON ESB-SC

Technical data	ESB-SC-200-xx-xxx-xx	ESB-SC-225-xx-xxx-xx	ESB-SC-250-xx-xxx-xx
Max. capacity in horizontal plane (m ³ /hour)	2–4	3–5	4–6
Screw diameter (mm)	200	225	250
Screw speed (min ⁻¹)	22–34	22–34	22–34
Conveyor length (m)	2–6, per 1 m	2–6, per 1 m	4–6, per 1 m
Total weight (kg)	150–750	200–800	200–900
Total installed power (kW)	0.55–2.2	0.55–2.2	0.75–3.0
Operating voltage (V)	3 × 400 V/50 Hz	3 × 400 V/50 Hz	3 × 400 V/50 Hz
Electrical protection rating (-)	IP55	IP55	IP55
Material	AISI 304 (1.4301)	AISI 304 (1.4301)	AISI 304 (1.4301)
Inclination	0–35°, per 5°	0–35°, per 5°	0–35°, per 5°
Possibility of complete or partial insulation with heating	Yes	Yes	Yes

Standard specifications of tubular screw conveyors AMCON ESB-TC

Technical data	ESB-TC-200-xx-xxx
Max. capacity in horizontal plane (m ³ /hour)	2–4
Screw diameter (mm)	200
Screw speed (min ⁻¹)	22–34
Conveyor length (m)	1.5 and 2.5
Total weight (kg)	150–750
Total installed power (kW)	0.55–2.2
Operating voltage (V)	3 × 400 V/50 Hz
Electrical protection rating (-)	IP55
Material	AISI 304 (1.4301)
Inclination	0–35°, per 5°
Possibility of complete or partial insulation with heating	No

Possible customization

- **ESB-TC-200:** Any length up to 4 m. Any angle up to 90°
- **ESB-TC-225, 250:** Any length up to 4 m. Any angle up to 90°
- **Material:** AISI 316L (1.4404)
- Manually or electrically rotatable designs
- Different types of discharge doors and inlet hoppers

Belt Conveyors AMCON ESB-BC

- **ESB-BC-300, 400, 650:** Any length up to 6 m. Any angle up to 40°
- **Material:** AISI 304 (1.4301), AISI 316L (1.4404)
- Manually or electrically rotatable design

Shaftless Trough Screw Conveyors AMCON ESB-FC

- **ESB-FC-200, 225, 250:** Any length up to 6 m. Any angle up to 40°
- **Material:** AISI 304 (1.4301), AISI 316L (1.4404)
- Manually or electrically rotatable design

Rental of Sludge Dewatering Presses

You may be dealing with one of the following situations:

"Our existing dewatering machine is out of order and we need a solution immediately."

"We need a temporary solution to empty the sludge pond."

"We don't have a budget to invest in purchasing a sludge dewatering machine this year, but we need a functioning technology now."

Are you facing a dewatering challenge such as a machine breakdown, needing a temporary solution for sludge management, limited budget for new equipment, or increased sludge production? Our short or long-term rental options provide the perfect solution.



Advantages of the AMCON rental solution

Overview

- Good for temporary or emergency needs
- All-inclusive plug&play experience
- Flocculant selection included
- One of the lowest operating costs guaranteed
- Installation, de-installation, technical support by phone or personal visit

Rentable products

- VOLUTE™ Dewatering Press, VOLUTE DUO™ Dewatering Press, and Polymer Make-up System are available. A complete set of pumps, hoses, etc., can be rented for immediate use

Rental period

- Available from a couple of weeks to a couple of years. Feel free to contact us for the rental period

AMCON rental solution includes

- Polymer selection sludge analysis
- Installation
- Commissioning
- De-installation



Customer scope of supply

- Electricity
- Water
- Polymer for the rental period excluding commissioning
Polymer can be supplied by AMCON
- Machine operator for the rental period excluding commissioning
- Disposal of sludge cake and filtrate water

Discover More on Our YouTube Channel



AMCON Europe YouTube Channel— Where Engineering Excellence Meets Environmental Solutions

Join us on our YouTube channel @Amcon-eu and explore the world of advanced wastewater treatment technology from the proud inventors of VOLUTE™ and VOLUTE DUO™ multi-disc dewatering screw presses.

What You'll Discover



Real Installation References

Industrial and municipal



Process Flow Demonstrations

Step-by-step walkthroughs of VOLUTE™ and VOLUTE DUO™ models



Performance Testing Videos

Actual test results and system capabilities



Expert Webinars

In-depth technical sessions with our specialists

Some References



Municipal WWTP in Denmark	
Unit	VOLUTE DUO™
Model	RVP-501
Sludge type	Primary
Sludge Concentration	4.87%
Flow Rate	3.10 m³/h
Throughput	151 kg-DS/h
Dry Solids	27.10%



Plastic Recycling Plant in Austria	
Unit	VOLUTE DUO™
Model	RVP-241
Sludge type	DAF Sludge
Sludge Concentration	5.40%
Flow Rate	0.80 m³/h
Throughput	43.20 kg-DS/h
Dry Solids	35.80%



Europe's largest distillery in the UK	
Unit	VOLUTE™
Model	11×ES-354
Sludge type	Spent wash
Sludge Concentration	4%
Flow Rate	21 m³/h
Throughput	840 kg-DS/h
Dry Solids	30%



Juice and Cider Production in France	
Unit	VOLUTE™
Model	ES-351
Sludge type	WAS
Sludge Concentration	1-2.20%
Flow Rate	4-10 m³
Throughput	60-100 kg-DS/h
Dry Solids	18-22%



Food Colors Plant in Germany	
Unit	VOLUTE™
Model	GS-202
Sludge type	Production wastewater
Sludge Concentration	0.10-1%
Flow Rate	5 m³/h (at 1%)
Throughput	5-50 kg-DS/h
Dry Solids	20-30%



Fish Farm in Denmark	
Unit	VOLUTE DUO™
Model	RVP-501
Sludge type	WAS
Sludge Concentration	1.30%
Flow Rate	3.40 m³/h
Throughput	45.60 kg-DS/h
Dry Solids	20.00%

Some References



Glass Manufacturer in France

Unit	VOLUTE DUO™
Model	RVP-241
Sludge type	Primary sedimented
Sludge Concentration	22.40%
Flow Rate	0.34 m³/h
Throughput	76.30 kg-DS/h
Dry Solids	66.60%



Leather Processing Factory in Austria

Unit	VOLUTE™
Model	FS-201
Sludge type	Chemical sludge
Sludge Concentration	0.25%
Flow Rate	1 m³/h
Throughput	21.40 kg-DS/h
Dry Solids	39.80%



Chemical Plant in Czech Republic

Unit	VOLUTE™
Model	GS-353
Sludge type	WAS from chemical production
Sludge Concentration	0.18–0.33%
Flow Rate	39 m³/h
Throughput	150 kg-DS/h
Dry Solids	21.10%



Oil Refinery in the UK

Unit	VOLUTE™
Model	FS-401
Sludge type	Lagoon Sludge
Sludge Concentration	1.40%
Flow Rate	9.60 m³/h
Throughput	133.50 kg-DS/h
Dry Solids	15%



Manure and Digest Treatment in Germany

Unit	VOLUTE DUO™
Model	RVP-241
Sludge type	MBR sludge
Sludge Concentration	3%
Flow Rate	0.60 m³/h
Throughput	18.20 kg-DS/h
Dry Solids	25.90%



Slaughterhouse in Norway

Unit	VOLUTE DUO™
Model	RVP-501
Sludge type	Mix of DAF sludge and manure filtrate
Sludge Concentration	2.60%
Flow Rate	3.40 m³/h
Throughput	88.40 kg-DS/h
Dry Solids	20.50%

Contact us for more references.



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