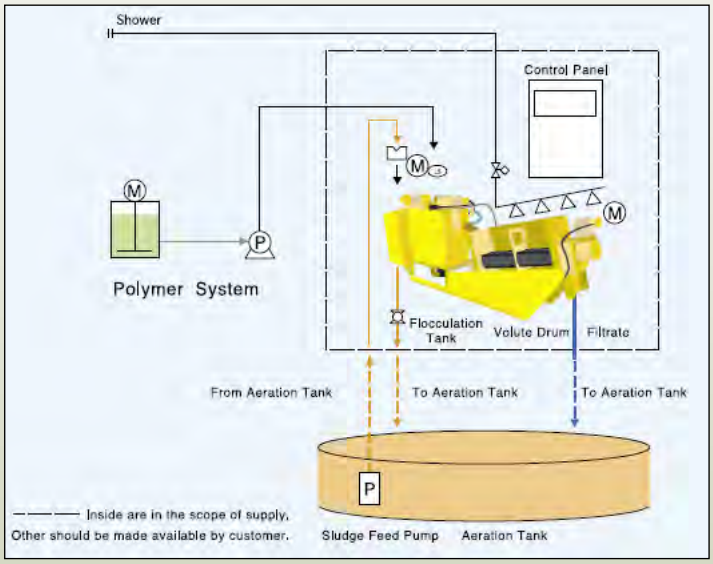
VOLUTE®
Sludge Dewatering Technology

VOLUTE DEHYDRATOR

INTRODUCTION

The *VoR* Volute Dehydrator brings revolutionary technology to sludge dewatering, offering significant advantages over conventional sludge dewatering methods. With a proven track record with 1605 installations in more than 43 countries including Australia, some of the benefits includes:-

- Extremely low energy and water consumption
- Single step dewatering capability from 0.2% -18% in without pre thickening
- 24 hour automatic operation.
- Extremely low noise & vibration
- Easy maintenance
- Ability to handle oily sludge
- Small footprint
- High recovery rate



DESIGN PROCESS

The key design of the Volute Dehydrator is in the dewatering drum. It consists of rings with a variable pitch auger running through the centre. Every second ring is fixed to the barrel assembly and separated by spacers. Intermediary rings are free to move. The internal diameter of the fixed rings is larger than the diameter of the auger. The intermediary rings have an internal diameter slightly less than the auger and hence are moved in an orbital motion as the auger turns. The movement of the intermediary rings constantly cleans the barrel assembly allowing free drainage of water. This arrangement allows for extremely low power draw.

Dilute sludge is introduced into a flocculator tank at the rear of the unit and mixed with a polymer solution to produce floccs. The floccs then overflow into the barrel and free water is drained as they are transported along the auger. Final compression of the sludge cake at the end of the auger is enhanced by decreasing both the pitch of the auger and the spacing between the fixed and intermediary rings.

Comparison Table			
Dewatering System	**Volute Dehydrator**	**Belt Press**	**Centrifuge**
Low Concentrated Sludge	Yes	No	No
Pre-Thickening	No	Yes	Yes
Storage Tank	No	Yes	Yes
Footprint	Small	Large	Small
Power Consumption	Extremely Low	High	High
Rinsing Water Consumption	Extremely Low	Extremely High	Low
Noise	Extremely Low	High	High
Vibration	Extremely Low	High	High
Maintenance	Easy	Difficult	Difficult
Maintenance Cost	Low	High	High
24 Hour Operation	Yes	No	No

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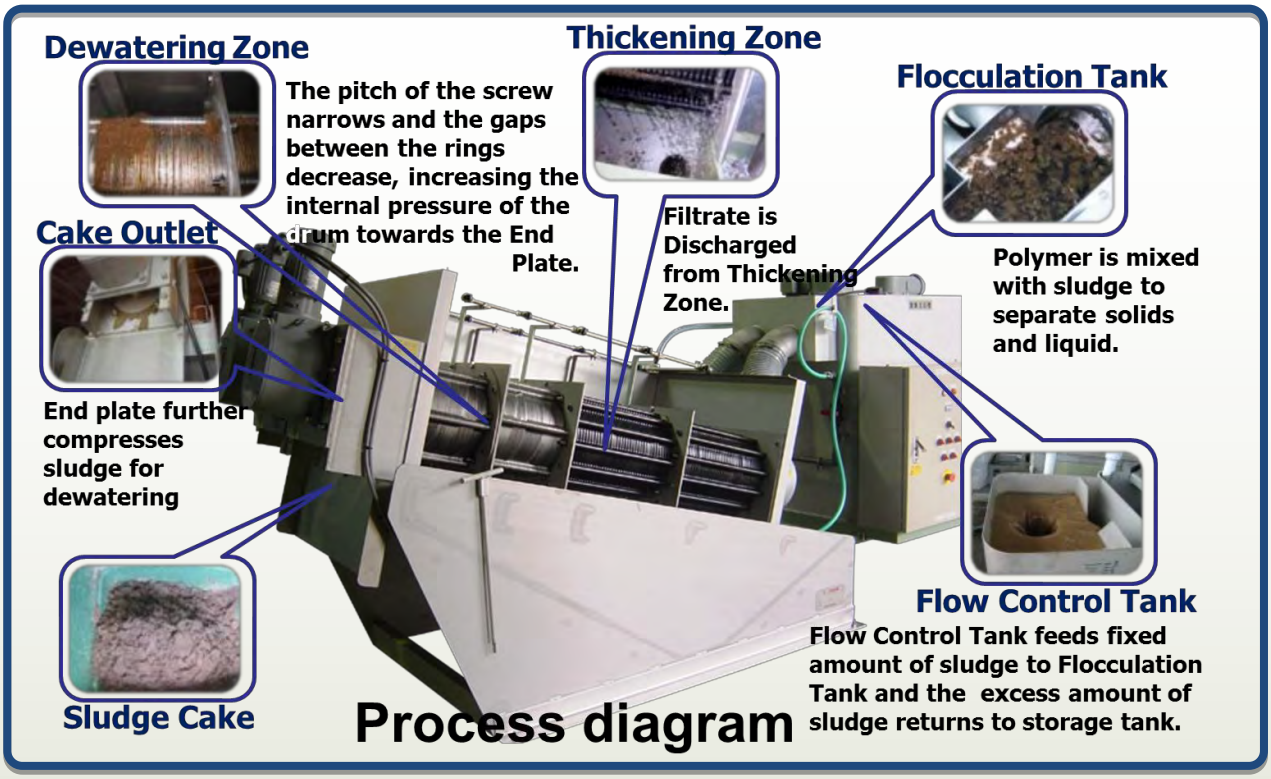

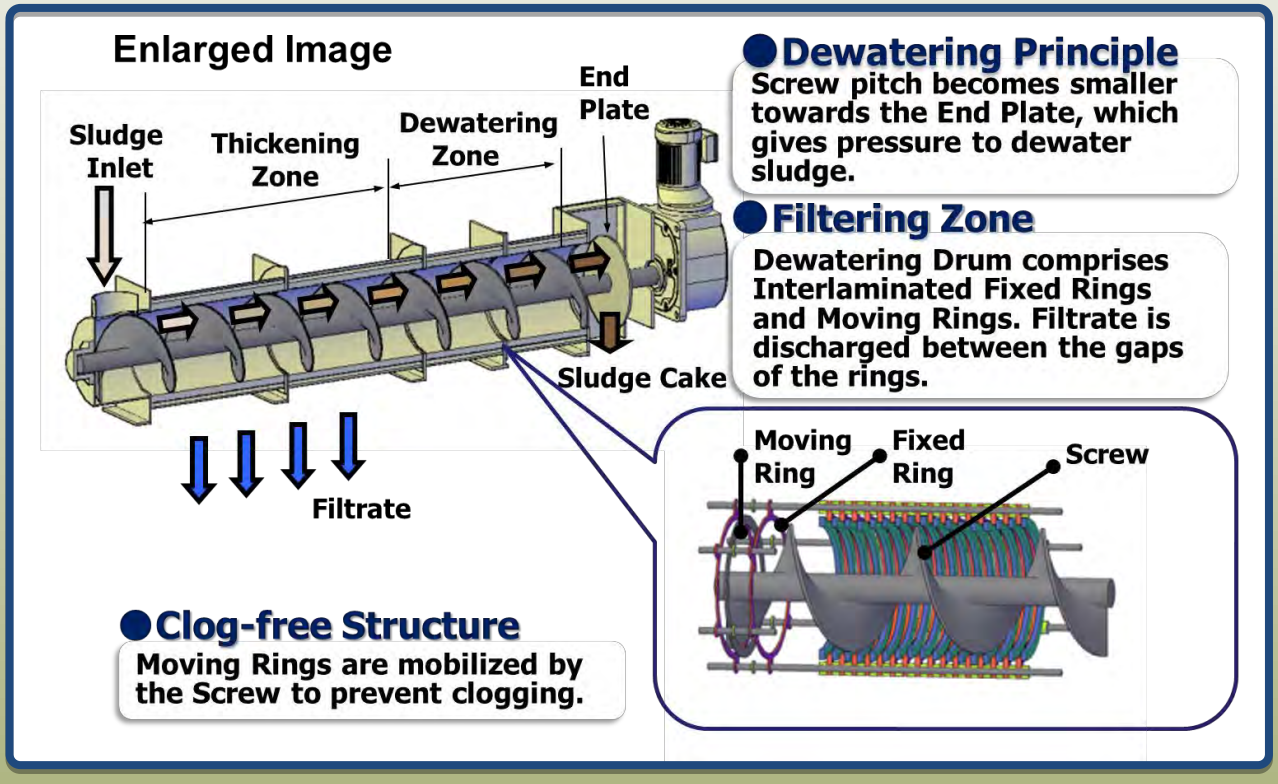

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SIZING & CAPACITY

	Raw Wastewater / Waste Activated Sludge / Chemically Precipitated Sludge		Dissolved-air Flotation Sludge		Mixed Raw Sludge / Aerobic Digested Sludge (Sewage Sludge)
Sludge Concentration (TS)	**0.2%**	**1.0%**	**2.0%**	**5.0%**	**3.0%**
MODEL 101	**up to 2kg-DS/h** (up to 1.0m^3/h)	**up to 3kg-DS/h** (up to 0.3m^3/h)	**up to 5kg-DS/h** (up to 0.25m^3/h)	**up to 10kg-DS/h** (up to 0.2m^3/h)	**up to 13kg-DS/h** (up to 0.43m^3/h)
MODEL 131	**up to 4kg-DS/h** (up to 2.0m^3/h)	**up to 6kg-DS/h** (up to 0.6m^3/h)	**up to 10kg-DS/h** (up to 0.5m^3/h)	**up to 20kg-DS/h** (up to 0.4m^3/h)	**up to 26kg-DS/h** (up to 0.87m^3/h)
MODEL 132	**up to 8kg-DS/h** (up to 4.0m^3/h)	**up to 12kg-DS/h** (up to 1.2m^3/h)	**up to 20kg-DS/h** (up to 1.0m^3/h)	**up to 40kg-DS/h** (up to 0.8m^3/h)	**up to 52kg-DS/h** (up to 1.73m^3/h)
MODEL 201	**up to 8kg-DS/h** (up to 4.0m^3/h)	**up to 12kg-DS/h** (up to 1.2m^3/h)	**up to 20kg-DS/h** (up to 1.0m^3/h)	**up to 40kg-DS/h** (up to 0.8m^3/h)	**up to 52kg-DS/h** (up to 1.73m^3/h)
MODEL 202	**up to 16kg-DS/h** (up to 8.0m^3/h)	**up to 24kg-DS/h** (up to 2.4m^3/h)	**up to 40kg-DS/h** (up to 2.0m^3/h)	**up to 80kg-DS/h** (up to 1.6m^3/h)	**up to 104kg-DS/h** (up to 3.47m^3/h)
MODEL 301	**up to 20kg-DS/h** (up to 10m^3/h)	**up to 30kg-DS/h** (up to 3.0m^3/h)	**up to 50kg-DS/h** (up to 2.5m^3/h)	**up to 100kg-DS/h** (up to 2.0m^3/h)	**up to 130kg-DS/h** (up to 4.33m^3/h)
MODEL 302	**up to 40kg-DS/h** (up to 20m^3/h)	**up to 60kg-DS/h** (up to 6.0m3/h)	**up to 100kg-DS/h** (up to 5.0m^3/h)	**up to 200kg-DS/h** (up to 4.0m^3/h)	**up to 260kg-DS/h** (up to 8.67m^3/h)
MODEL 303	**up to 60kg-DS/h** (up to 30m^3/h)	**up to 90kg-DS/h** (up to 9.0m^3/h)	**up to 150kg-DS/h** (up to 7.5m^3/h)	**up to 300kg-DS/h** (up to 6.0m^3/h)	**up to 390kg-DS/h** (up to 13m^3/h)
MODEL 351	**up to 40kg-DS/h** (up to 20m^3/h)	**up to 60kg-DS/h** (up to 6.0m^3/h)	**up to 100kg-DS/h** (up to 5.0m^3/h)	**up to 200kg-DS/h** (up to 4.0m^3/h)	**up to 260kg-DS/h** (up to 8.67m^3/h)
MODEL 352	**up to 80kg-DS/h** (up to 40m^3/h)	**up to 120kg-DS/h** (up to 12m^3/h)	**up to 200kg-DS/h** (up to 10m^3/h)	**up to 400kg-DS/h** (up to 8.0m^3/h)	**up to 520kg-DS/h** (up to 17.3m^3/h)
MODEL 353	**up to 120kg-DS/h** (up to 60m^3/h)	**up to 180kg-DS/h** (up to 18m^3/h)	**up to 300kg-DS/h** (up to 15m^3/h)	**up to 600kg-DS/h** (up to 12m^3/h)	**up to 780kg-DS/h** (up to 26m^3/h)
MODEL 354	**up to 160kg-DS/h** (up to 80m^3/h)	**up to 240kg-DS/h** (up to 24m^3/h)	**up to 400kg-DS/h** (up to 20m^3/h)	**up to 800kg-DS/h** (up to 16m^3/h)	**up to 1040kg-DS/h** (up to 34.7m^3/h)

- Capacity above is calculated as approximate and may vary depending on sludge condition. For model selection, please contact us
- Capacity of each model is based on sludge cake with 20±5% solids content
- Capacity of DAF Sludge is based on sludge containing fat, oil and grease such as meat processing or dairy application etc
- Capacity of Mixed Sludge (Primary Sludge and Waste Activated Sludge) and Aerobically Digested Sludge is based on sludge containing 30% fibre (75 micron mesh clearance) against Total Solids

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