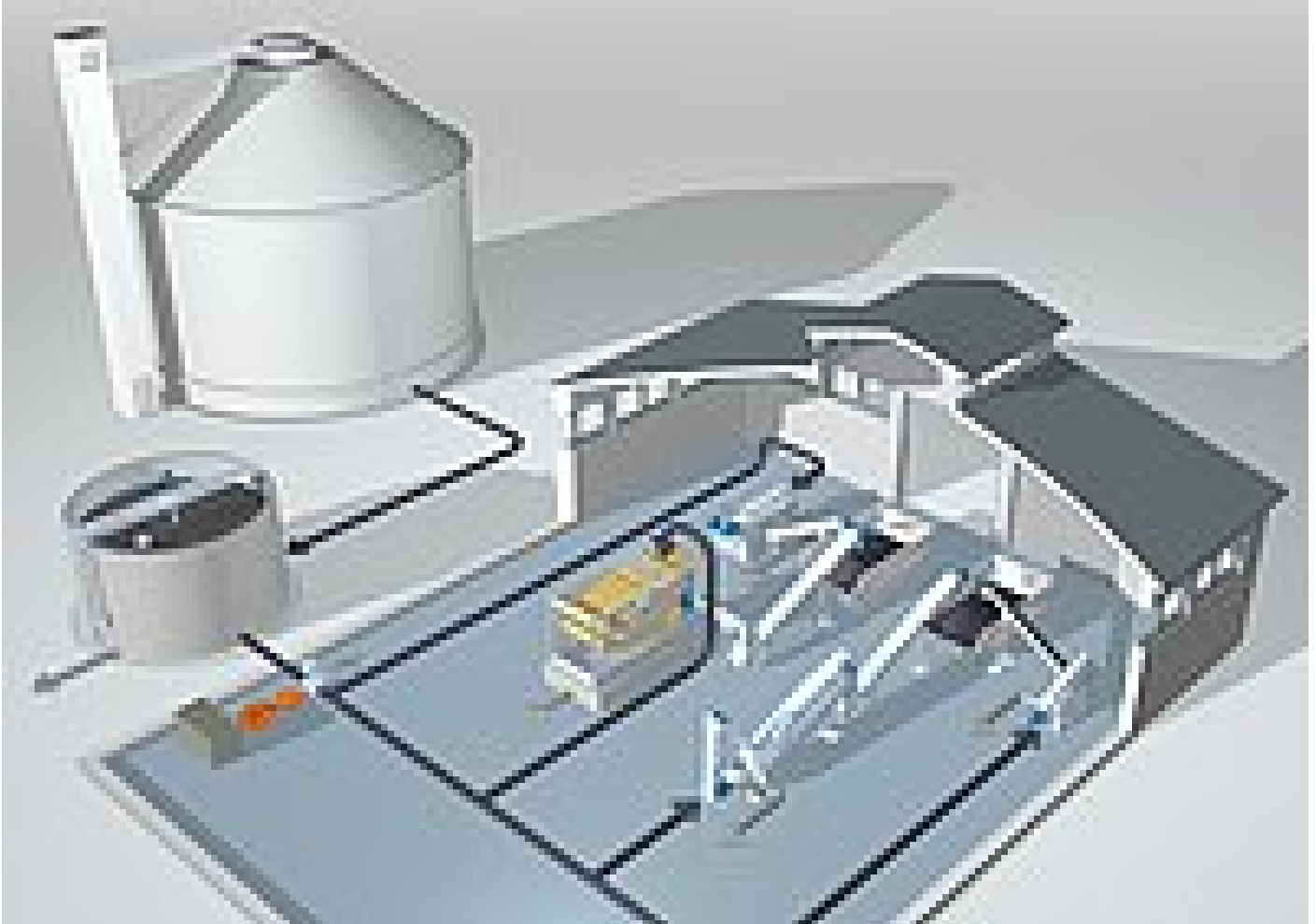


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Sludge Dewatering



Dewatering consumes less energy than it saves during subsequent sludge treatment or transportation. Performance and power consumption depend on sludge type and the used technology:

- **Gravity thickeners** consume negligible energy, but have a limited effect. They are useful to reduce flow to dewatering machines and simultaneously serve for storage.
- **Belt Filter Presses** and **Screw Presses** are medium-tech machines with low power consumption that can easily be maintained by operators.
- **Conventional decanters and high-performance centrifuges** have far higher power consumption and need manufacturer maintenance.
- **Frame and plate filter presses and membrane filter presses** are seldom installed nowadays, though they can achieve high cake solids, because they are expensive and require much operation and maintenance work.

The following table compares performance and power consumptions:

Characteristic of Dewatering Systems	Aerobic Sl.	Anaerobic Sl.	Power consumption	
	%DS	%DS	kWh/t	kWh/(PE-a)
Gravity Thickener	3 – 5	5 – 10	0 - 10	0 – 0.3
Belt Filter or Screw Press	15 – 20	20 – 30	10 - 30	0.3 – 1.0
Simple Decanter Centrifuge	14 – 18	18 – 28	20 - 50	0.5 – 1.5

High-Performance Centrifuge	n/a	22 – 33	30 - 60	0.7 – 2.0
Frame and Plate Filter Press	n/a	25 – 38	25 - 60	0.6 – 2.0
Membrane Filter Press	n/a	28 – 40	30 - 90	0.8 – 3.0



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