



(dynamic) Hydrodynamic Cavitation Technology

Biomass Disintegration for Biogas Plants

CaviMax Technical Data Sheet for ANAEROBIC DIGESTION PLANTS - for details on what hydrodynamic cavitation is and how the biomass disintegration is achieved, please visit our website www.cavimax.co.uk

FLEXIBLE INSTALLATIONS

CaviMax has wide range of machines and configurations available to suit the digester size and biogas/kW output of your anaerobic digestion plant. We can either build plug and play containerised units or can provide a bespoke engineering service to integrate the CaviMax into your system. We work closely with you and your team to meet exact requirements based on the individual characteristics of the AD plant and the outcome required, whether troubleshooting a problematic poorly performing plant or maximising a brilliantly performing plant.

Cavimax Model Capacity Sheet (Kw/Hr)

Model Kw/H	VOLUME/HR			Output Capacity	
	8% recirculation -	1:8 solid / liquid ratio (approx 11%)	KG of DM/Hr	Electrical equivalent	M3 Biogas /Hr
7.5	950	680	75.56	94	47
11	1400	1000	111.11	139	69
22	2800	2000	222.22	278	139
37	4400	3170	352.22	440	220
55	7000	5000	555.56	694	347
75	9500	6800	755.56	944	472
110/2	14000	10000	1111.11	1389	694
150/2	19000	13600	1511.11	1889	944
220/4	28000	20000	2222.22	2778	1389
225/3	28500	20400	2266.67	2833	1417
				DM per KW 0.8	DM per M3 Biogas 0.625
Maize at 200m3/ tonne@32%DM = 320kg DM			320	400	200

The table above shows our range of machine, find your plants biogas output on the right, or electrical output and match the model on the left, the model number is also the kW/h rating to help you cost OPEX

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RESULTS OF BMP TRIALS

Here is a small sample of BMP (Biomethane Chemical Potential) uplifts gained during various cavitation trials using both the laboratory scale machine pictured below 'The CaviLab' and our biomethane plant sized machine 'The Twins' C150/2, which is a duel reactor configuration. BMP analysis is carried out by an independent accredited laboratory. We have seen a range between 10% and 56% uplift depending on the positioning of the cavitator on the plant, how much biogas has already been converted before our treatment and the AD feedstock portfolio.

Substrate passing from primary to secondary digester

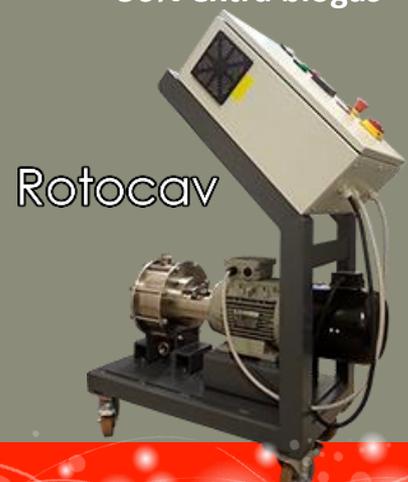
+10% extra biogas

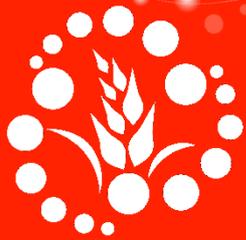
Treating floating a floating layer on a biomethane plant

+35% extra biogas

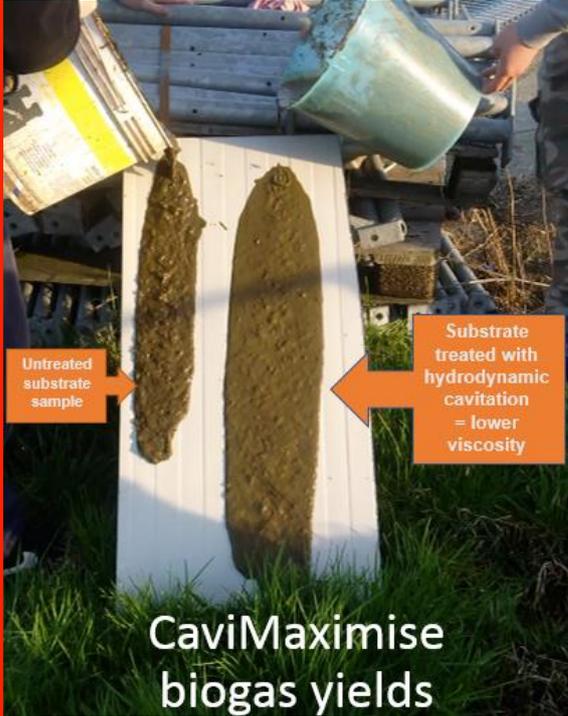
Recirculating substrate around a primary digester

+56% extra biogas

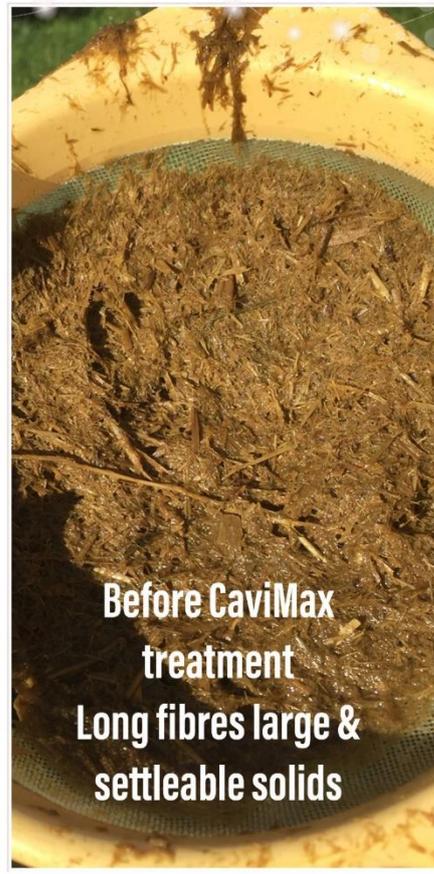




CAVIMAX



CaviMaximise biogas yields

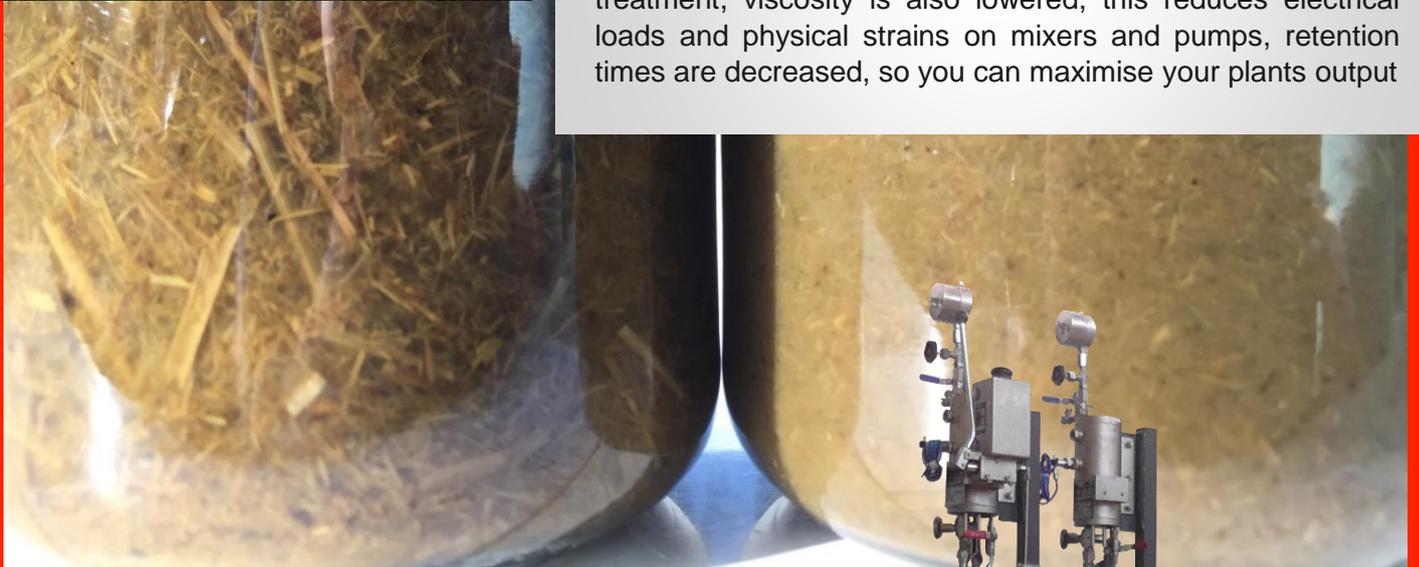


Before CaviMax treatment
Long fibres large & settleable solids



After treatment
particle sizes are much smaller and suspended in the liquid

ONE MACHINE MANY BENEFITS Decreasing particle sizes is how we achieve the extra biogas. Seeing is believing and a picture is worth a thousand words. Here are some photos of substrate and feedstocks before cavitation and after cavitation treatment, viscosity is also lowered, this reduces electrical loads and physical strains on mixers and pumps, retention times are decreased, so you can maximise your plants output



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