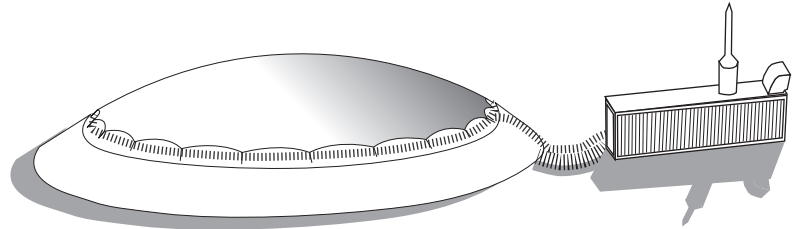


AD bag

biogas made easy



A standard installation of an old Anaerobic Digester system usually implies a great use of concrete and time. Over the last few years our company has worked to define a solution that provides plants with a smaller carbon footprint, quicker to be installed and easier to be handled and maintained, assuring at the same time the usual yields in biogas.

We are pleased to introduce **ADbag**, the easy way to biogas.

The system is composed by a plasticised fabric bag which will work as reaction tank and a technical container which will provide for the recirculation and heat control of the sludge, as well as will host the control panel and a CHP, in the case the biogas will be used for the production of electricity.

The sludge within the reaction tank will be agitated by a recirculating system which will suck the slurry from the bottom and will re inject it through four nozzles placed at the equator of the bag tank and from a single rotating sprinkler placed at the top. This system provides for the perfect mixing of the feedstock, maximizing the production of gas.



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*We believe that a greener World is possible
and we are aiming to get there.*

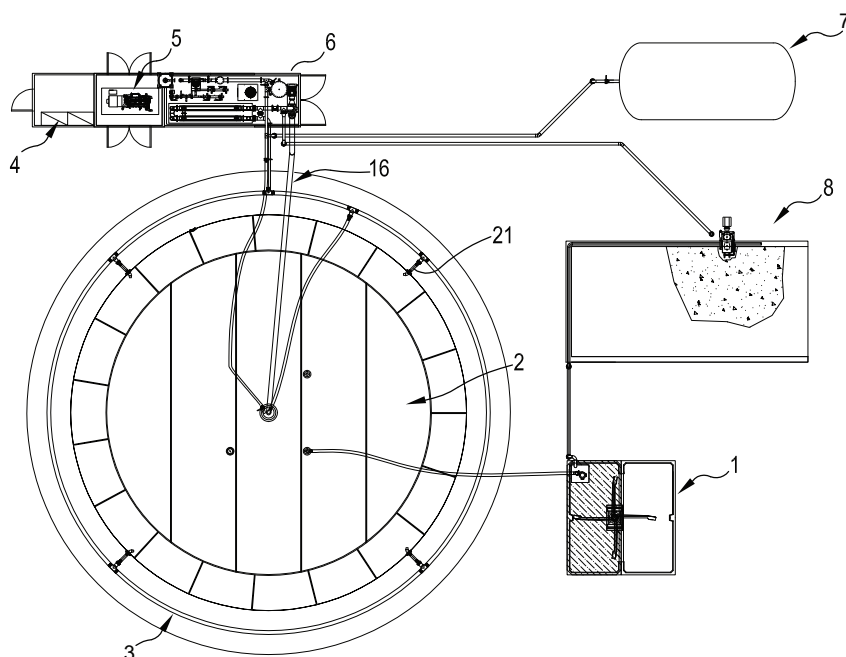
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The whole process is monitored and managed remotely. The onsite operators should take care of basic operations such as filling the feeding tanks with feedstock and double check some essential parameters. Our engineers will be able to access via an internet connection to the control panel and supervise the process.

The system has been designed to grant the highest level of reliability providing that all the components could be fully tested before shipping.

The installation of the standard system requires an area 50x30 Mt wide. The bag tank needs a "cradle" which will be partially excavated in the soil. The resulting soil from the excavation will be used to build the shoulders. Once the cradle is ready the bag is positioned at the centre and unpacked and connected to the pipes in order to complete the circuits. The parts such as the storage pits for the handling of the digestate, the feeding tank and the screed for the container will be assembled on site from pre-casted concrete elements.

The full installation takes usually less than 20 working days.



- 1 - feeding tank (optional)
- 2 - reaction bag tank
- 3 - recirculation circuit
- 4 - control room
- 5 - CHP (optional)
- 6 - pumping and heating station
- 7 - gas holder (optional)
- 8 - press screw and separation storage (optional)



AD bag 12

AD bag 15

AD bag 18

Diameter	12 mt	15 mt	18 mt
Vol tot	375 m ³	588 m ³	850 m ³
Vol sludge	290 m ³	503 m ³	765 m ³

Adbag 18m		FEEDSTOCK	Cow Slurry (10% TS)	Organic waste (23% TS)	Sludge from Water Treatment (6% TS)	Sludge from Distillery (10% TS)	Slaughter house waste (15% TS)	Grass (16% TS)
Feedstock quantities	tons/day		19	12	25	25	13	11
	tons/year		6,935	4,380	9,125	9,125	4,745	4,015
Gas production	Biogas (Scm/h)		28	67	19	42	54	29
	CH4 (Scm/year)		124,000	320,000	88,000	195,000	257,000	126,000
Digestate production	Solid (tons/year)		876	1,059	767	1314	329	1,241
	Liquid (tons/year)		5,771	2,665	8,279	7,483	3,873	2,446
Biogas exploitation	CHP	Electrical (kW)	50	130	36	80	105	52
		Thermal (kW)	71	186	51	114	150	74
	Boiler	Thermal (kW)	127	325	90	176	257	128

The values in the table above are estimated results of calculation and are shown here for the purpose of the comparison between different feedstock.