



TESLA ECO SYSTEMS



bert

CONVERTING
SLURRY
INTO
ENERGY

CONVERTING SLURRY INTO ENERGY

Bert Energy is a patented and worldwide proven German initiative towards solving an agricultural problem by turning it into green energy. Not only is this international award winning technology well capable of converting all kinds of biowaste into energy without the use of energy crops (silage, root crops), it's also an easy solution to the excess slurry problem.

BERT TECHNOLOGY

Bert-slurry only AD (Anaerobic Digestion) plants apply the unique PON technology: the Power Of Nature is used to mix the substrates in the digester. These natural forces help saving on expenditure and operational costs and it allows the farmer to build small plants (e.g. 15 kW/hour output). Bert offers a unique technology optimized for liquid fermentation and small plants and no other biogas system is using the power of nature as consequently as does Bert.

The construction design of the concrete build digester allows the generated biogas to mix the substrates. This happens automatically and continuously. Furthermore, an additional mixing system is incorporated into Bert's unique heating system which is applying the specially developed Thermo Gas Lift technology.



The Bert technology is designed to have minimal moving parts and to require minimal operations (15-30 minutes per day) and maintenance. All plant components are standardized. Consequently structural service and maintenance are straightforward and easy to learn.

Integration of Bert technology in the farm slurry management allows additional savings: fresh slurry is fed continuously from the barn into the pre-pit. From the pre-pit the substrate is automatically and regularly fed into the digester. The mixing inside the digester happens automatically as well through the power of nature. The digested substrate is automatically poured into the storage pit.

PRODUCT RANGE

The Bert product range offers various standardized tank sizes from 200-1200 m³ equipped with the unique Bert technology. As of 9 tons of substrates per day concrete build digesters can be more economic than the Bert Mobile solution. The Bert kW/h output can be modified as per customer's requirements. This results in a winsome expenditure and ROI.

Digester volume & output combinations

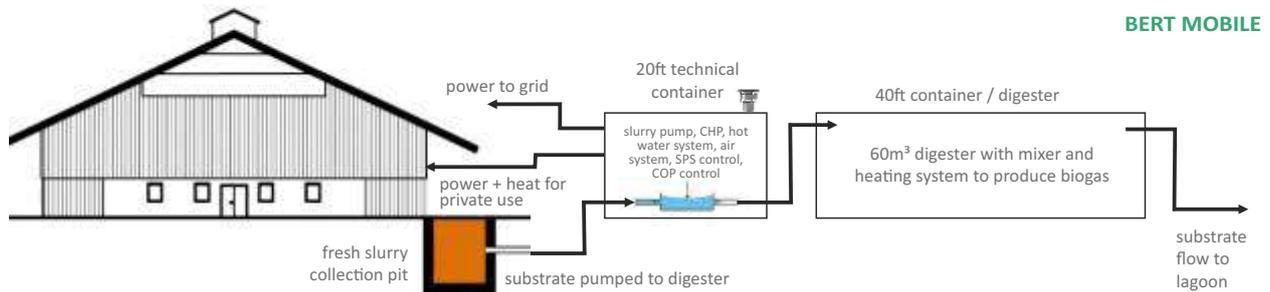
	20 KW	30 KW	40 KW	50 KW	64 KW	75 KW	100 KW	120 KW	150 KW
200 m ³	Bert Mobile series								
300 m ³	x	x							
400 m ³		x	x	x					
500 m ³			x	x	x				
600 m ³				x	x	x			
800 m ³						x			
1000 m ³							x		
1200 m ³							x	x	x

BERT MOBILE SERIES

Bert Mobile is an industrially manufactured integral biogas system. All advantages of industrial manufacturing e.g. quality control, mass production and economies of scale can be realized. But there are more advantages; like ease of maintenance and low maintenance costs, a quick and worry free installation and up-powering. A Bert Mobile becomes profitable from 3 metric tons of slurry processed per day.



A major advantage of the Bert Mobile system is the ability to operate off grid, self sustainably generating sufficient electricity to run your farm by processing the on site waste biomass, thus realizing considerable savings on decomposing costs. And as a bonus a surplus of electricity can be sold to third parties.



Setting up Bert Mobile

Bert Mobile arrives by standard truck. After a local crane has placed the 20 ft Combined Heat and Power (CHP) container and the 40 feet digester container(s) at the predefined and prepared location, our Bert construction team will then install the biogas system within 4-6 days. Next, the on board pump will fill up the fermenter and the biomass is heated up. Biogas production should start within 7-10 days. The on board CHP will start to generate electricity accordingly.

Container volume and output combinations*

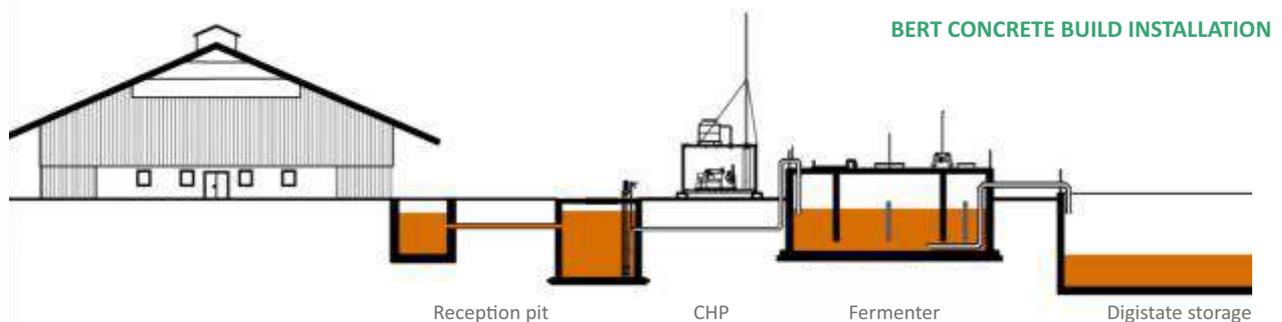
20ft	40ft	20ft	40ft	20ft	40ft
15kW	60M ³	30kW	60M ³	40kW	60M ³
			60M ³		60M ³
					60M ³

CHP engine type: Cummins, Cooper CHP engine type: Kubota, TEDOM, MAN CHP engine type: of choice

- * Configurations existing of 4 or more containers are available upon request.
- * The CHP/kW output depends on the substrates processed. There is no guarantee the maximum CHP power can be achieved.
- * Final design and technical specifications are subject to local conditions (climate zone, substrates to be processed and local finishing).

CONCRETE BUILD FERMENTER

We offer various sizes of fermenters/digesters in combination with different sizes of CHP engines. The typical combinations are: 300 m³ /30 kW, 400 m³/40 kW, 500 m³/50 kW and 600 m³/75 kW. Other combinations are conceivable, depending on your substrates. The combinations marked with an X on the (page 2) overview are the most frequently sold in Europe. Of course two fermenters can be used for larger quantities of substrates, e.g. 30.000 m³ of substrates per year.



DIGESTATE TREATMENT & NUTRIENT RECOVERY SYSTEM

The containerized 40 feet digestate treatment & nutrient recovery system is the solution to excess slurry, ground water pollution and regulatory issues. It not only eliminates the digestate's nitrate/nitrogen component and provides non-polluting grey water or (at a higher purchase price) even drinking water, it also recovers the digestate's nutrients (solid as well as liquid), which can be applied for private use or sold to third parties.





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