



Electromix system

The perfect mixture of performance and reliability!

GEA Farm Equipment | Houle

engineering for a better world

GEA Farm Technologies



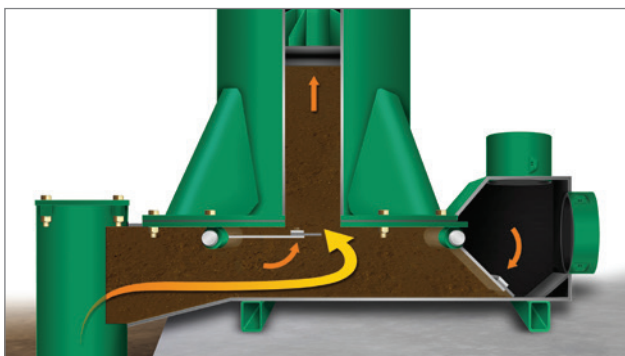
Electromix system

A reliable and versatile system for agitating slurry or fermentation substrate to form an homogenous mixture and also for pumping through small cross-section PVC pipes. The Electromix system consists of a pump and an electric agitator.

The Electromix system consists of a hydraulically driven piston pump and a separate electric agitator. The system pumps the agitated and completely mixed cattle slurry over long distances with minimum power. The slurry can contain bedding material such as straw and sawdust up to consistency of 38mm. The Electromix pump can be installed either on the walls of concrete or steel slurry pits or on the floor directly next to the pit. The Electromix agitator stirs the slurry to form a homogenous mass which can be easily pumped. The following are a variety of applications illustrating how you can simplify pumping slurry with the Electromix system.

Operating principle

During the suction cycle (the piston moves upward) the reduced air pressure and the pressure of the slurry force the outlet valve to close and the inlet valve to open, filling the pump chamber with slurry.



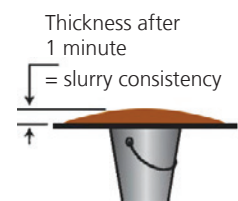
Application

Pumps stirred and completely mixed cattle slurry without sand and solids into the main storage tank through underground pipes with a cross-section of up to 38mm.

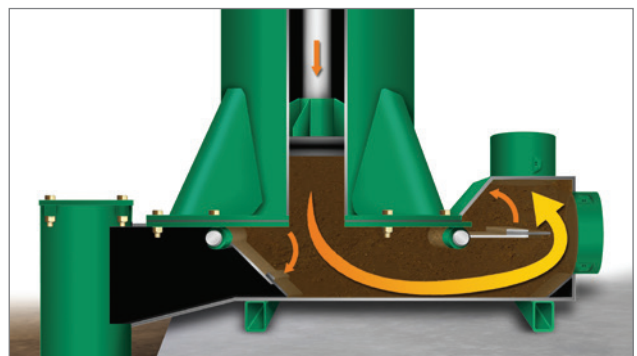
The performance depends on the specific system, the consistency of the slurry as well as the type and quantity of the bedding. Slurry with a thicker consistency requires liquid from the storage tank or the grey-water supply.

Slurry test

1. Ensure that the manure in the pit is well agitated and homogenised.
This step is very important;
2. Place a 60 cm disc on a bucket;
3. Slowly pour sufficient slurry onto the disc until it is fully covered;
4. After waiting for 1 minute measure the thickness of the slurry in the middle of the disc.



During the pump cycle (the piston moves downward) the pressure of the slurry forces the inlet valve to close and the outlet valve to open, pressing the slurry out of the pump chamber and into the outlet pipe.



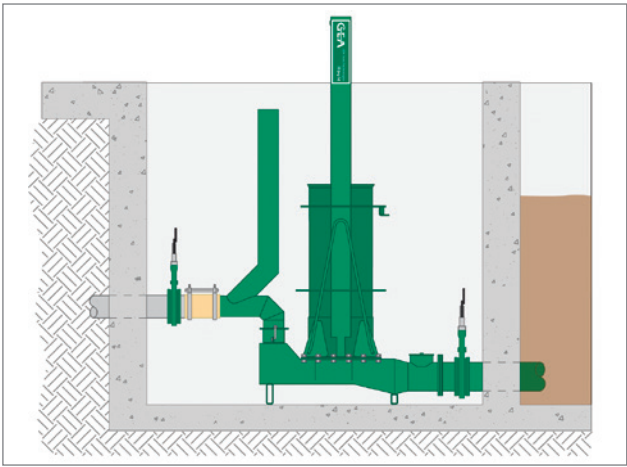
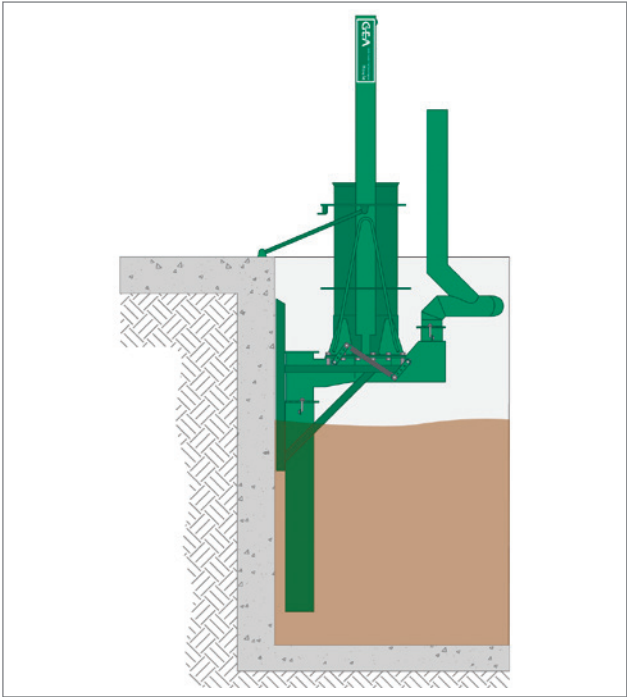
Electromix pump configurations



Electromix pump, wall mounted with a 2" (5cm) suction pipe on the wall

For round steel or concrete pits.

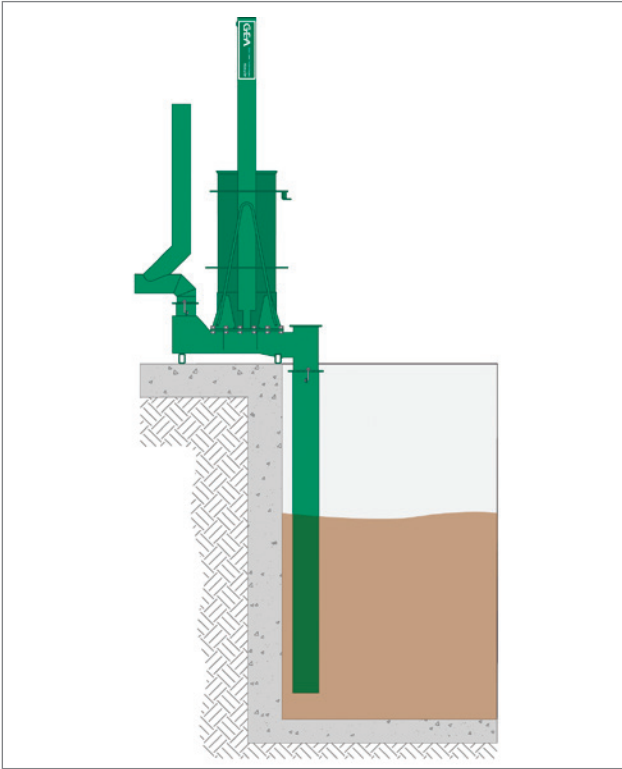
Round steel container: Wall thickness 6.3mm, Diameter 3.6m, Depth 2.5m.



Electromix slurry pump performance table					
Hydraulic unit		4kW		5.5kW	
Diameter Hydraulic cylinder		76mm		101mm	
Flow in litres per minute		611		423	
Internal diameter Pressurised pipeline		6" / 150mm	8" / 200mm	6" / 150mm	8" / 200mm
Maximum pipe length depending on the consistency	Consistency				
	13mm	152m	488m	244m	914m
	19mm	107m	366m	152m	610m
	25mm	61m	244m	107m	457m
	38mm	46m	183m	61m	366m
Maximum slurry consistency		38mm			
Temperature range		min 5°C			
Maximum output pressure		3,7bar (82.7bar in the hydraulic circuit)			
Noise level		62dBA (at 1m)			

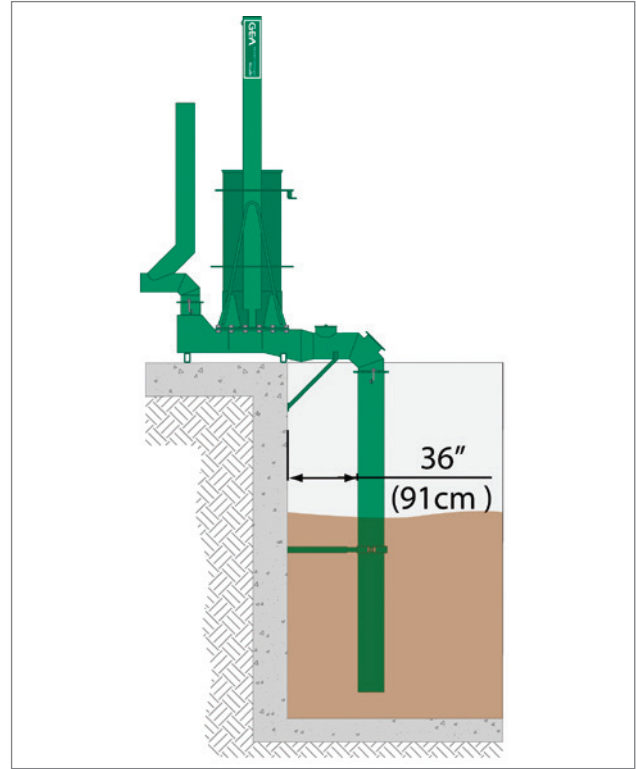
Electromix pump with inlet flange

Installation in a service pit with gravity feed.



Electromix pump, floor mounted with suction pipe near the wall

For installation next to or above the collection pit, on the steel floor or in a recess if the pit is more than 3m deep.



Electromix pump, floor mounted with suction pipe 90cm from the wall

For installation next to or above the collection pit, on the steel floor or in a recess if the pit is more than 3m deep. Improved mixing of the floating layers as the solids cannot collect behind the suction pipe.



Electromix agitator

For cattle and pig slurry, fermentation

- For agitating slurry with a variety of different consistencies on dairy and pig farms, biogas plants, etc.
- Agitated with integrated cutting tool for chopping up long-fibre material
- Low wear
- Minimal maintenance

Performance:

Motors between 5.5 and 30kW can be used



Biogas

The system for agricultural biogas production

Biogas production is becoming increasingly attractive for progressive farmers as it enables the utilisation of organic resources while simultaneously contributing to producing environmentally-friendly energy. The Electromix system plays an extremely important role in this process as it mixes both slurry and also other organic waste or sewage (Electromix agitator) and

pumps it to the biogas plant (Electromix pump). The system is reliable and powerful over relatively long distances* with low energy consumption.

* The possible transfer distance depends on the consistency of the material, the diameter of the pipes and the configuration as a whole.



Accessories and options

Hydraulic agitator

Attached to the suction pipe is the hydraulic agitator which reduces the collection of solids and prevents the inlet from becoming blocked.



Hydraulic unit

The hydraulic pump has a 50litre container which pumps 20-30litres per minute 5 or 7.5HP (4 or 5.5kW). Available with electric oil heating.



Important features

- Available motors: 5 or 7.5HP (4 or 5.5kW). The 7.5HP (5.5kW) engine can only be used with the reinforced pump cylinder option.
- Stainless steel pump pipe.
- 3» (76mm) hydraulic cylinder. 4» (102mm) hydraulic cylinder with optional reinforced cylinder.
- Mechanical low-pressure reversal system for problem-free operation.
- The pump can be equipped with an automatic or manual control system.
- 8" (203mm) suction pipe with a maximum length of 3m.
- 6" (152mm) shut-off valve with an insulated handle in the fluid pipe.
- 6" (152mm) air damper.
- Electromix agitator.



We live our values.

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 index.

GEA Farm Technologies GmbH

Siemensstraße 25 - 27, D-59199 Bönen
Tel. +49 (0) 23 83 93 7-0, Fax +49 (0) 23 83 93 8-0
www.gea.com | www.gea-farmtechnologies.com