

EFFLUENT SOLUTIONS CATALOGUE

Designed to manage effluent sustainably and effectively.





JOIN NEXT GENERATION FARMING

Dairy farm effluent is a valuable resource. It can be used to maximise pasture growth, reduce fertiliser costs and increase milk profit.

With a GEA effluent management system, you can manage effluent storage better, make valuable nutrients go further, be more flexible with grazing, and lower stress levels during busy periods. You can also significantly reduce fresh water usage and associated costs with the ability to recycle water for wash down.

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This brochure contains only a part of our complete product range. For more information, please contact your GEA dealer.





SEPARATION

Reliable and efficient systems to get the most out of your effluent.

Separating effluent into solid and liquid components makes managing your large effluent storage easier. Additionally, less system maintenance is required and there is greater flexibility for application as well as the ability to recycle water.

GEA has developed the ultimate range of separators that can be used as a stand alone equipment or in configurations with other separators, to suit any farming system.

The slope screen separator uses a sloped stainless steel screen to remove solids from a lower consistency effluent stream. This proven high performing and robust separator is applicable for dairy manure.

The XPress squeezes liquid from higher consistency solids between a perforated stainless steel roller and rubber roller, for higher dry matter output.

SlopeScreen™

Manure separation with the GEA SlopeScreen™.

The GEA SlopeScreen is a key component to effective manure separation. Dairy manure is a sustainable and valuable resource. When managed properly, it impacts farm profitability and overall operation efficiency. Independently managing the solids and liquids gives the flexibility to determine the best way to use them. The GEA SlopeScreen™ is an excellent tool for liquid recycling and reducing solid manure.

Make the most of liquid and solid fractions.

When separating for water quality, the GEA SlopeScreen can remove up to 55% of total solids. This provides additional storage room (estimated to be between 5% and 15%) in the lagoon with minimal effect on the nutrient value of the liquid. Water in the lagoon can then be used for irrigation or transported to the field for application. The SlopeScreen is well suited for flush systems and scraped farms with a cross flush system. When used in systems with a sand lane, customers can expect a reduction in water usage as well as the ability to effectively separate manure.

When separating solids from the primary separation, they can be easily managed by an integrated XPress system.

The GEA SlopeScreen has the ability to reduce the moisture in fibre down to 80% in optimum conditions. This performance is influenced by operating conditions, manure type, composition and other external equipment factors.

We offer:

Modularity: Equipment configurations are based on individual requirements and the parts are interchangeable.

Throughput: The range of SlopeScreen™ models can handle the manure of up to 300 cows/hour*.

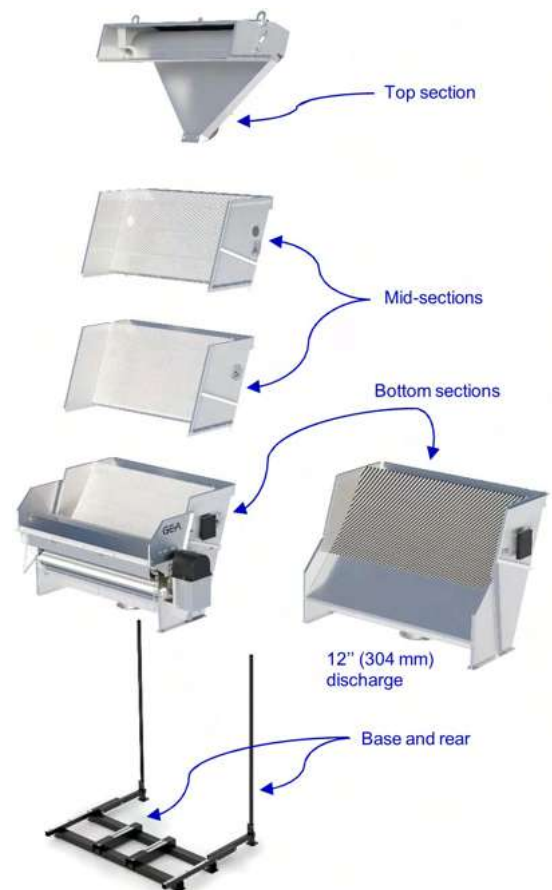
Adaptability: Screen opening sizes are set to standards that perform in most environments. If different opening sizes are deemed necessary, they can be ordered as required.

Reliability: Simple design with minimal moving parts for easy maintenance which results in reduced total cost of operation.

Low power consumption: The SlopeScreen™ requires no electrical horsepower. The SlopeScreen™ XP requires a 1.5hp (1.1kw) motor.

Longevity: Made entirely of stainless steel and built to last in highly demanding and corrosive environments.

**Values given in this document are based on performance in optimum conditions. Be aware that performance may vary according to operating conditions, manure type and its composition and other external equipment factors.*



OptiClean™

Complete automatic cleaning system to achieve maximum performance out of the GEA SlopeScreen.

Designed with the user in mind, the OptiClean™ uses pressurized water to remove fibre and includes an integrated chemical system to remove minerals and soil. Programmable for site-specific conditions, the OptiClean™ allows users to take full advantage of their investment, extends equipment life, and reduces labour.

The user can easily adjust the frequency and duration of rinses, washes, and contact times with the included controller. The GEA OptiClean™ compliments the water treatment system popular on many farms today. It uses minimal water, helping with sustainability and limiting additional costs associated with disposal.

Customer Benefits

By utilising water recycling technologies, the farmer invests less money in transferring water, takes full advantage of the recycling process, and helps conserve a valuable resource. History has shown that frequent washing of separators leads to increased functionality, flow, and overall performance. The OptiClean™ allows the smooth flow of liquid, aiding in maximum performance by keeping fibre from accumulating on the wedge-wire screen.



The Process

1. At a preset time during the day, the OptiClean™ will shut down the feed pump and make a pass over the screen using the angled nozzles to carry material stuck on the screen to one side.

2. The return pass allows the OptiClean™ to move any fibre still on the screen back to the other side.

3. During the third pass, the foaming nozzles apply an acidic cleaner that works to remove the soil and mineral accumulation.

4. The OptiClean™ makes an additional pass to remove the material the acid has loosened.

XPress™

The XPress is an effluent separation system designed to produce the highest quality dry matter.

It is perfectly suited for medium to large-scale dairy farms where there is a significant volume of effluent to be processed.

The XPress uses the rotation of its roller system to pull in a steady stream of material from the separated solid. The effluent is squeezed between an upper rubber roller and a lower stainless steel screen to remove moisture. The extracted liquid is diverted from the dry matter via openings in the screen roller. The process can be repeated with multi-stages depending on the capacity or dry matter rate targeted.

Field-proven system providing outstanding performance.

The XPress is offered in several configurations, with or without a dewatering device as a pre-treatment. A configuration with one pass through results in a dry matter rate between 24 and 28%. With two or three pass through configurations, the solid output dry matter rate ranges between 30% and 34%.

Performance

With its unique design, the material in the XPress is squeezed not ground. Because the XPress is designed with very few mechanical wear parts, it requires minimal energy input and only basic maintenance for many years of trouble-free performance.

Key benefits

- Solids 'drier' and easier to store, liquids 'wetter' and easier to pump
- Solids suitable for immediate spread as solid organic fertiliser.
- Flexibility for carting solids immediately post separation
- Easy to clean stainless steel chute and steel roller.
- Pressure control system available to vary dry matter % output.
- Heavy-duty components for a long-lasting operation.
- Low power consumption (1.1 kW)
- One-piece ½" thick scraper, easily removable at front.



XPress™ 4FT - 2FT with integrated regulator tank

Treat between 20-50 US gpm (16-41 Imp gpm and 75-190 lpm) – 45 cows/hour.

Solid output between 30-34% dry matter rate*.



XPress™ 6FT with integrated regulator tank

Treat between 30-75 US gpm (25-62 Imp gpm and 110-285 lpm) – 60 cows/hour.

Solid output between 24-28% dry matter rate*.



XPress™ 4FT with integrated regulator tank

Treat between 20-50 US gpm (16-41 Imp gpm and 75-190 lpm) – 45 cows/hour.

Solid output between 24-28% dry matter rate*.



TRANSFER

When it comes to effluent agitation and transfer pumps, GEA has the range to suit all purposes and budgets with ultimate performance and efficiency.

Our experts can ensure the right pump, pressures and flow rates are applied according to your farm effluent needs. All our vertical electric pumps are belt driven for ratio tuning, safety and ease of maintenance..

- 4" Vertical Agi-Pump for high performance agitation and transfer from one motor.
- 4" Vertical Dairy Effluent Pump for the perfect balance between pressure and flow rate with thicker effluent.
- 4" Vertical Transfer Pump for economical and efficient transfer of smaller volumes.
- Piston Pumps for transfer of heavy effluent from compost barns or other heavy waste streams to storage or separator.
- Electromix Agitator for specialised powerful effluent agitation.

4" Agi-Pump

Stands out from the others for its high performance pumping and high efficiency agitation..

The 4" Agi-Pump is used to agitate and transfer effluent from a reception pit. It can also be used to feed effluent separators.

Key benefits:

- Two functions of one motor: agitation and pumping.
- Agitates, chops and transfers effluent with high fibre content and a high percentage of solids.
- Provides a constant flow of well agitated effluent
- Belt driven allowing easy adjustment of the pump RPM for maximum efficiency.
- Rugged and unique propeller knife and impeller blade design.
- Optional rotating nozzle for targeted breaking up of crusting or build up.
- Side-mounted slide and tilt for easy access and maintenance of gear box and impeller.
- Controls easily accessed from the top of the pump.
- Drive shaft and gear box protected by a 3 seal mechanism and any number of milking stalls you wish, design the rotary milking system according to your individual farm concept!



4" Dairy Pump

The perfect balance between pressure, flow rate and agitation quality for efficient and optimal results.

The 4" Dairy Pump is used to transfer dairy effluent from the reception pit to the main storage.

Key benefits:

- Provides a powerful and consistent flow of effluent.
- Optional 215° rotating agitation nozzle on stainless steel pivot with vertical articulation.
- Efficient design of directional valve maximises pumping capacity.
- Bottom nozzle included breaking the build-up around the pump housing.
- Belt driven allowing adjustment of pump RPM for maximum efficiency
- 6" or 8" intake with reversible knives that chops and agitates.
- 12" or 16" impeller with four cast iron curved blades
- Side-mounted slide and tilt for easy access and maintenance.
- Load bearing on the bottom of the pit.
- Controls easily accessed from the top of the pump.
- Double bearing housing protected by a 3 seal mechanism.



Hog Pump

Economical effluent transfer.

Key benefits

- Provides a powerful flow of lower consistency effluent.
- 235° rotating agitation nozzle on stainless steel pivot with vertical articulation.
- Stainless steel threaded shaft to prevent rust and corrosion.
- Belt driven allowing adjustment of pump RPM for maximum efficiency.
- Large impeller with four cast iron curved blades.
- Flexible discharge hose connects to a 4" pipe.
- Double bearing housing protected by a 3 seal mechanism.
- Controls easily accessed from the top of the pump.
- Economical.

Additional information

- Pump length available 1.8 to 4.8m (in 0.6m increments) to suit any tank depth.
- Maximum effluent consistency 10mm.
- Motor size 3.7kW - 7.5kW.
- Motor size and speed installed is determined by individual farm effluent requirements.
- If additional agitation is required, we recommend the GEA Electromix Agitator for best results .
- Max Consistency - 10mm.



Electromix Agitator

Powerful effluent agitation.

Key benefits

- Thorough agitation for effective management of effluent sump.
- Fully directional.
- Heavy duty 610mm propeller with shear knife to chop fibres.
- Belt driven allowing adjustment of pump RPM for maximum efficiency.
- Controls easily accessed from the top of the agitator
- Load bearing on bottom of the pit.
- Remote grease lines lubricate the gearbox 3-seal mechanism.
- Optional splash guard.







FLUSH SYSTEM

Barn cleaning is where it all started for GEA, so effective flood washing of yards, barns and feedpads is what we do best.

With a GEA flush system, wash-down can be as quick and easy as pressing a button. Our specially engineered pumps, pontoons and flush valves are designed to discharge flush water in high volumes with supreme cleaning result.

Time, labour, environmental and economic efficiencies can all be achieved by using the key elements of a GEA Flush System, including:

- 8" Vertical Flush Pump to efficiently transfer high volumes of flush liquid from a tank for flood washing a yard area.
- Flush Valves for even and controlled distribution of flush liquid.
- 8" Vertical Flush Pump on Pontoon to transfer recycled flush liquid from a pond to a safe and stable pontoon

8" Vertical Flush Pump

Transfers flush liquid for flood washing.

Key benefits:

- No restriction on flush cycle time compared to using flush tanks (if necessary, it can run multiple times without waiting for a tank to refill)..
- High flow rate, low pressure..
- Low RPM to run long hours with minimal maintenance
- Efficient belt drive transmits maximum output from motor to pump and overload protection to driveline.
- 16" impeller driven by 5.5 - 37 kW motors..
- Strong welded steel pump housing and impeller guarantee a long lifespan.
- Basic maintenance can be carried out through the central lubrication hoses.
- The Check Valve at the pump discharge keeps water in the flush line between flushes to reduce air hammering and prevent pump damage.
- The pump is geared to flush at the highest rate possible at the pumping head required.



Flush Valves

Controlled distribution of flush liquid.

Key benefits:

- Even and controlled distribution of flush liquid across yard area.
- Labour and time savings.
- Recycled effluent can be used safely.
- Directed high volume flushes with no vertical splash.
- Simple and reliable controls.
- 5.5m working width.
- Robust and reliable airbag to open or close valve.
- Requires only 40 psi to shut off 8 metres of head pressure
- Adjustable lid openings for easy clean.
- Easy to install and maintain.
- Live-stock friendly.
- A complete range of flush line fittings are available to ensure maximum performance and durability.



8" Flush Pump on Pontoon

Transfers flush liquid from the pond for flood washing.

Key benefits

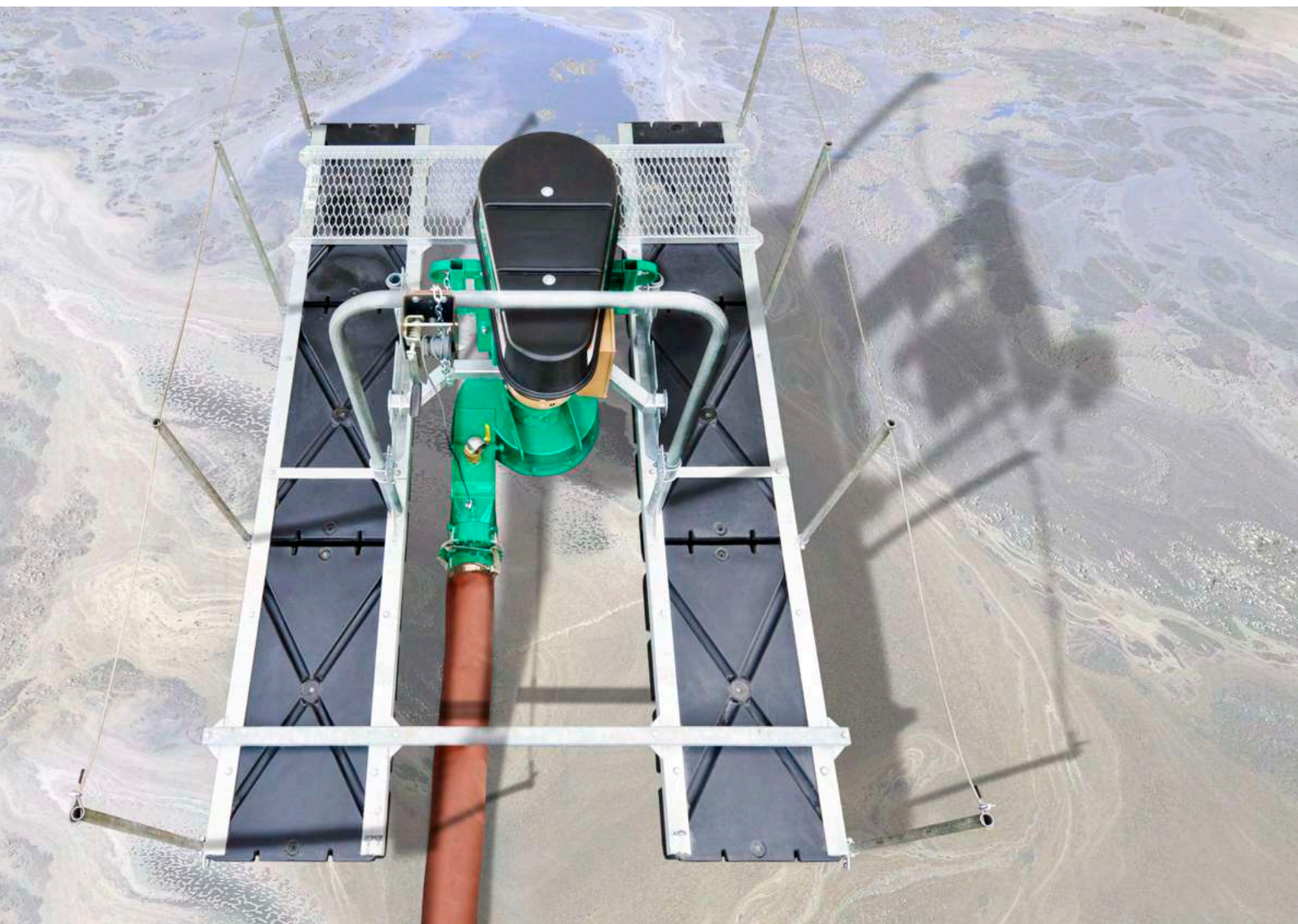
- No restriction on flush cycle time compared to using flush tanks (if necessary, it can run multiple times without waiting for a tank to refill).
- Flush pump at low RPM to run long hours with minimal maintenance.
- Efficient belt drive transmits maximum output from motor to pump and overload protection to driveline.
- Strong welded steel pump housing and impeller guarantee a long lifespan.
- The Check Valve at the pump discharge keeps water in the flush line between flushes to reduce air hammering and prevent pump damage.
- Pumps can be winched up for easy maintenance
- The grease bank allows installation of grease lines for lubrication from the side of the pond.
- All seals or bearings are above water level.
- An optional stainless steel pan can be added to allow only the top 6" of liquid in the pond to be transferred.
- Anti-slip galvanised steel deck.
- The pontoon floats are UV resistant foam filled,

polyethylene floats for a long lifespan. They are purpose designed and weight rated for stability.

- The pump can be adjusted to ensure only 4 inches of liquid covers the pump housing..

Additional information:

- Maximum recycled water consistency 3mm.
- Pumping head up to 14m.
- Throughput up to 11,000 litres / min.
- Recommended pipe size 300mm.
- 16" impeller driven by 5.5kW - 37kW motors.
- The Pontoon is 2.3m x 3.7m or for pumps with motors over 30kW 2.3m x 4.9m.
- Total weight of pump and pontoon is 865kg.
- We provide information for recommended flush volumes to effectively clean a given area.







BARN CLEANER

Quality milk production begins long before the cows enter the milking parlour.

Efficient cleaning carried out regularly every day helps :

- Maintain traction.
- Improve hoof health.
- Increase overall animal cleanliness.
- Reduce emissions of ammonia and improve air quality, both for the animals and the farm operators.

A strong and robust scraping system designed for efficient, frequent cleaning of any length of alleys.

Several models of cable alley scrapers are available to cover almost any barn configuration. GEA scrapers, drive units and

corner wheels are designed to last and to excel even under the most difficult conditions. GEA's cable alley scraper and cross gutter cleaner systems perform well with limited regular maintenance to keep your barn clean and comfortable for you and your cows.

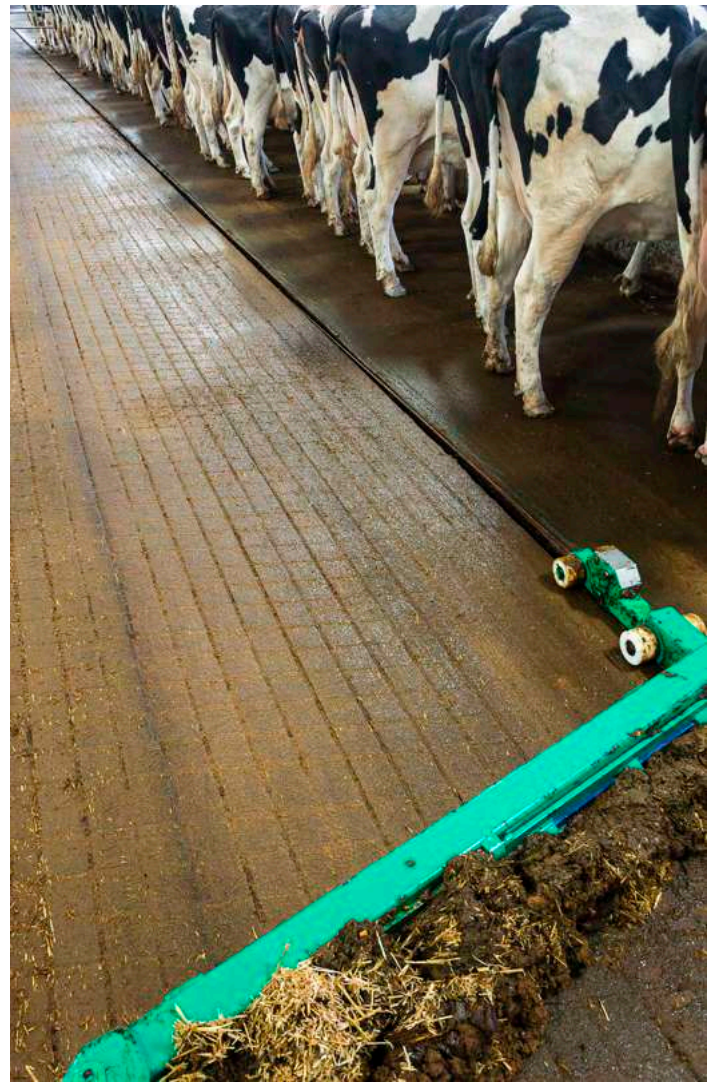
Our diverse product line allows you to manage manure in your own way.

Chain and hydraulic alley scrapers and cross gutter cleaner systems are offered, as well as a flush cleaning system to clean the alleys and holding area.

Cable Scrappers and Cross Gutter Cleaners

The unique design of this system allows lateral movement of the drive as the cable is wrapped around the rotating drum. The coiling is done without excessive stress or friction on the cable.

- Lateral movement of the drive unit is done by means of an extremely durable rolling mechanism on a track. This movement allows the cable to remain well aligned when it is being coiled, and eliminates the stress and excessive pressure caused by the cable guide found on other drive units on the market.
- More configuration options - the corner wheels can be installed in proximity to the drive unit. The SW drive unit can also be mounted on a lifting base with vertical wheels, similar to the Fit R-300, for situations where existing conditions make a standard installation challenging; elevation differences, installation next to an existing curb or other obstacles.
- A protective hood made of light plastic that is resistant and durable - allows for easy handling when necessary.
- The open and raised drive unit base facilitates cleaning of manure accumulation under the drive unit.
- Double motor option DD on SW-300 and SW-450 models. Standard on the SW-650 model.



Available Models:



SW-300 model.

SW-450 Model

SW- 650 Model



PTO EQUIPMENT & AGITATION

The PTO range of equipment includes various high performance, powerful PTO pumps and agitators to handle the most demanding conditions.

Designed to handle thick effluent built up over time from intensive farming systems.

GEA PTO pumps and agitators are capable of stirring, chopping and transferring high volumes of thick effluent for distribution.

A range of pumps are available depending on the task.

The Agi-Pump and Super Pump are particularly useful for mixing ponds, pits, or in ground tanks. They then can also

transfer effluent into an irrigation / umbilical slurry system or to fill a GEA Spreader.

Various features make the job easy such as the remote control system to operate the pumps. Big demanding jobs become a one-man operation.

Articulated Agi-Pompe

The Agi-Pompe, with its high quality impeller and propeller offers outstanding performance and a long life span. The Agi-Pompe is used to homogenize and transfer liquid manure containing long bedding and bottom sediments.



Articulated Super Pump

The Super Pump is built with the same high quality construction as the Agi-Pompe and is the right choice to agitate and transfer slurry containing a limited amount of chopped bedding.



Agitators



Lagoon Agitator

5 lengths of Lagoon Agitator available to give you the necessary far-reaching access to agitate the content of your lagoon efficiently and safely.



Articulated Agitator

The far-reaching articulated agitator with its strong 3-point hitch agitates the contents of a concrete pit safely and efficiently.



LIQUID MANURE SPREADERS

Chosen over 10,000 times and still going strong.

GEA liquid manure spreaders, chosen for performance, reliability, durability and many other reasons:

- Simple and effective steering system for superior maneuverability.
- Stainless steel tank welded inside and out for increased durability.
- Swivel hitch for better interaction between tractor and spreader.
- Epoxy primer and urethane paint finish for corrosion resistance.
- Industry standard-setting tank shape design
- Bolt-on components for easy maintenance
- Specially-designed suspension system for minimal compaction
- Minimal maintenance required

GEA ProManure E2750 Steerable Liquid Manure Spreader

The steerable spreaders offer good maneuverability and control, which results in less ground compaction when turning. The exclusive hydraulic power-steering and superior quality suspension provide better durability.

The reservoir walls are made of high quality steel and are welded inside and out for increased durability. Baffles are installed inside the reservoir, providing liquid manure stability. GEA ProManure spreaders are pretreated using iron phosphate to improve corrosion resistance. They are coated with a layer of Epoxy primer then two layers of Urethane paint making them resistant to extreme conditions.

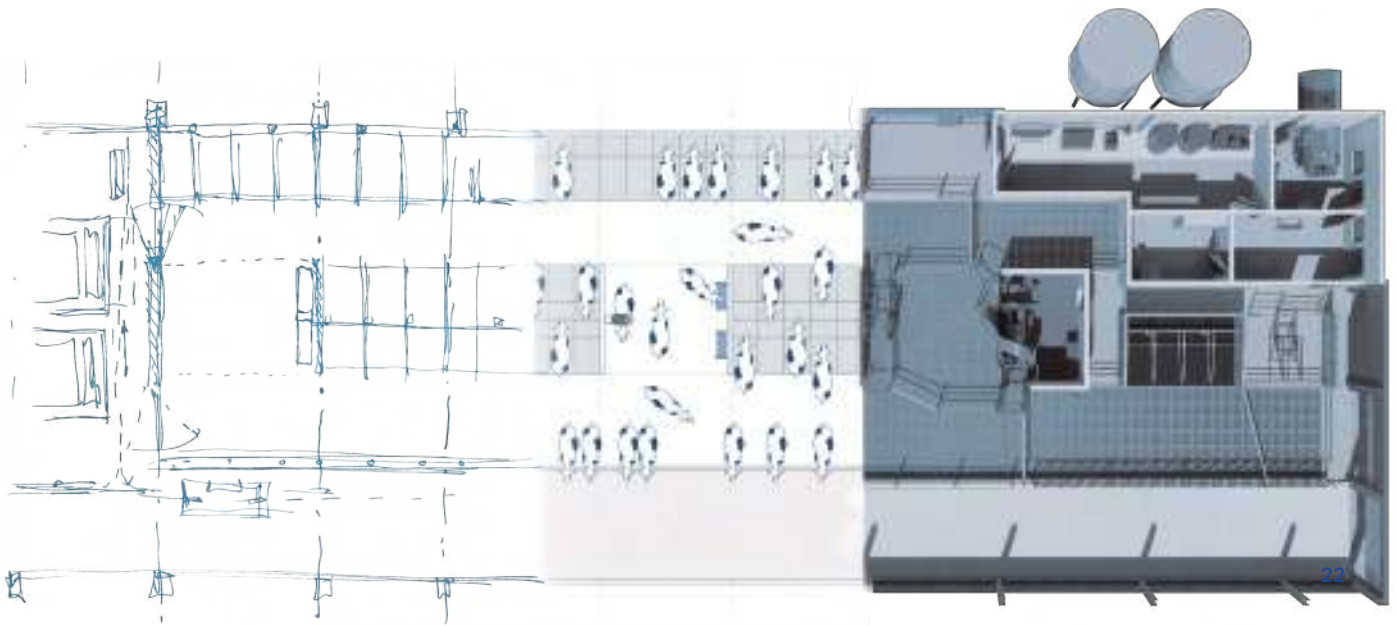
A good product must be maintained. To make this process easier, we have integrated several centralized lubricating points as well as cleaning access points on top of the reservoir.

Contact your local dealer for information regarding tire, brake and other options to customise your spreader.

Specifications

- 4, 6 and 8 wheel steerable spreader models
- Exclusive power-steering system.
- Single or double hitch.
- Bolted impeller housing made of abrasion resistant steel
- Heavy-duty discharge pipe with anti-siphon.
- Fill opening with protection grid.
- Front fill indicator.
- Front drain with stone collector.
- Integrated ladder.
- Signal lights.
- 540 or 1,000 RPM impeller.
- Remote grease on knuckles.
- 4" axle shafts rated for 18,000 lbs/each - made of 4340 steel.





FARM DESIGN

Dairy farms are so varied in their structure that their planning also needs to be truly individual. GEA's planning experts advise you on all questions concerning your future construction projects and develop your personal farm layout for efficient work routines.

Regardless of herd size, our goal is to optimise the interaction between you, your cows and your technology. Every plan is a customer-specific solution in which individual operational requirements and general factors such as climate, ground or local conditions play a role.

With respect to herd management, we put emphasis not only on cow welfare and traffic, but also on the design of our personal work areas inside the barn and around the milking system.

Instead of focusing on a single area, we always keep an eye on the entire farm and all the systems used. Benefit from the long-term international experience of our architects and engineers – in cooperation with other partners involved in the project, we support you from concept development to detailed technical planning.

YOUR NEXT STEP

Would you like to learn more?
Contact your local dealer!



Scan QR code to find your local dealer



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