

# Sloped Screen Separators

Efficient design with simple operation



## 2 STAGE SLOPED SCREEN SEPARATORS

GEA sloped screen separators can work together side-by-side to fulfill large flow capacity requirements. The two stage separator includes either a 8 x 8 (244 x 244 cm) or a 8 x 12 feet (244 x 366 cm) screen with an integrated XPress for a higher dry matter output.

# Efficient design with simple operation

Our proven line of sloped screen separators provides dairy farmers a profitable and effective manure management system.

## Manure separation with GEA sloped screens

Dairy manure is a sustainable and valuable resource. When managed properly, it impacts on farm profitability and overall operation efficiency. Independently managing the solids and liquids gives you the flexibility to determine the best way to use them. Manure separation with a GEA sloped screen separator allows you to benefit from better lagoon storage management. More importantly, the clearer liquid effluent from the separation process can be used for irrigation or to feed a flush and/or power flume system. When dryer output is needed, the solids from the primary separation can be easily managed by an integrated roller press system.

A secondary sloped screen separation followed by a decanter centrifuge process can significantly improve the balance of nutrients in both the solid and liquid portion. It gives dairy producers more options and leeway in their manure spreading schedule to apply the necessary nutrients according to crop agronomic need. The nutrient-rich solid cake is easily transported to deficient fields further away.

## A sloped screen separator built for you

Sloped screen separators manufactured by GEA come in several available sizes and with different screen openings ranging from 0,010 to 0,060 inch. The appropriate configuration is selected based on the type of material (consistency with total solids) being separated, liquid clarity and rate processing requirements.

The high-value manure management equipment developed by GEA is rooted with 60 years of field-proven experience. This knowledge is available through our sales specialists and established dealership network to provide sound guidance in designing manure processing and liquid recycling systems which exceed your requirements.

# Sloped Screen Separators

Sloped screen separators from GEA remain the best option to separate manure with low solids content. With a functional and simple design, including no moving parts, there is minimal repair and maintenance required.

Sloped screen separators are well suited for flush systems and scraped farms with a power flume. They are an excellent tool for liquid recycling and thinning the manure stream down. The progressive wedge wire screen openings provide high performance separation by allowing liquid to pass in the upper portion and captured solids to be dewatered on the bottom portion of the screen.

Different screen sizes are available:

- 1 8FT sloped screen separator - 8 x 12 feet (244 x 366 cm)
- 2 8FT sloped screen separator - 8 x 8 feet (244 x 244 cm)
- 3 4FT sloped screen separator - 4 x 4 feet (122 x 122 cm)  
6FT sloped screen separator\* - 6 x 6 feet (183 X 183 cm)

\*currently only in selected markets.

## Key features and benefits

- **High performance equipment** — our range of sloped screen separator models can process manure produced by 60 to 300 cows in 1 hour.
- **Greater capacity and dryer material** — the 8 x 12 feet screen size provides a greater surface area for additional dewatering time.
- **Low cost operation** — simple design with no moving parts for easy maintenance.
- **Made entirely of stainless steel** — built to last in highly demanding and corrosive environments.
- **Increase the dry matter rate** — the sloped screen separators can work as a multiple stage separator by adding a downstream stand alone 6FT or 8FT roller press system. The 4 FT sloped screen separator model can work jointly with a XPress 4FT or with a cascading roller press system (XPress 4FT and 2FT) to provide solids which can be recycled back to the operation as freestall bedding.



**SLOPED SCREEN SEPARATOR MODELS**  
Different screen sizes are available to accommodate different scale dairy farms.

# 2 Stage Sloped Screen Separators

Sloped screen separators with an integrated XPress roller press system go one step further in liquid extraction and provide a dryer material.

The 2 stage sloped screen separator is well suited for flush systems and scraped farms with a power flume. The solid output is dry enough to be stacked and hauled down the road without concern for liquid leaking out.

## Key features and benefits

- **High performance equipment** — the 2 stage separator processes the manure produced by 90 to 300 cows in 1 hour.
- **Moisture content** — the 2 stage separator brings the level of moisture in fiber down to approximately 80%\*.

### Screen sizes available

- 1 8 x 8 feet (244 x 244 cm) and 8 x 12 feet (244 x 366 cm)

### Safety limit switch

- 2 The limit switch stops the pump feeding the system when a high level of manure is detected.

### Heavy-duty double tapered roller bearings

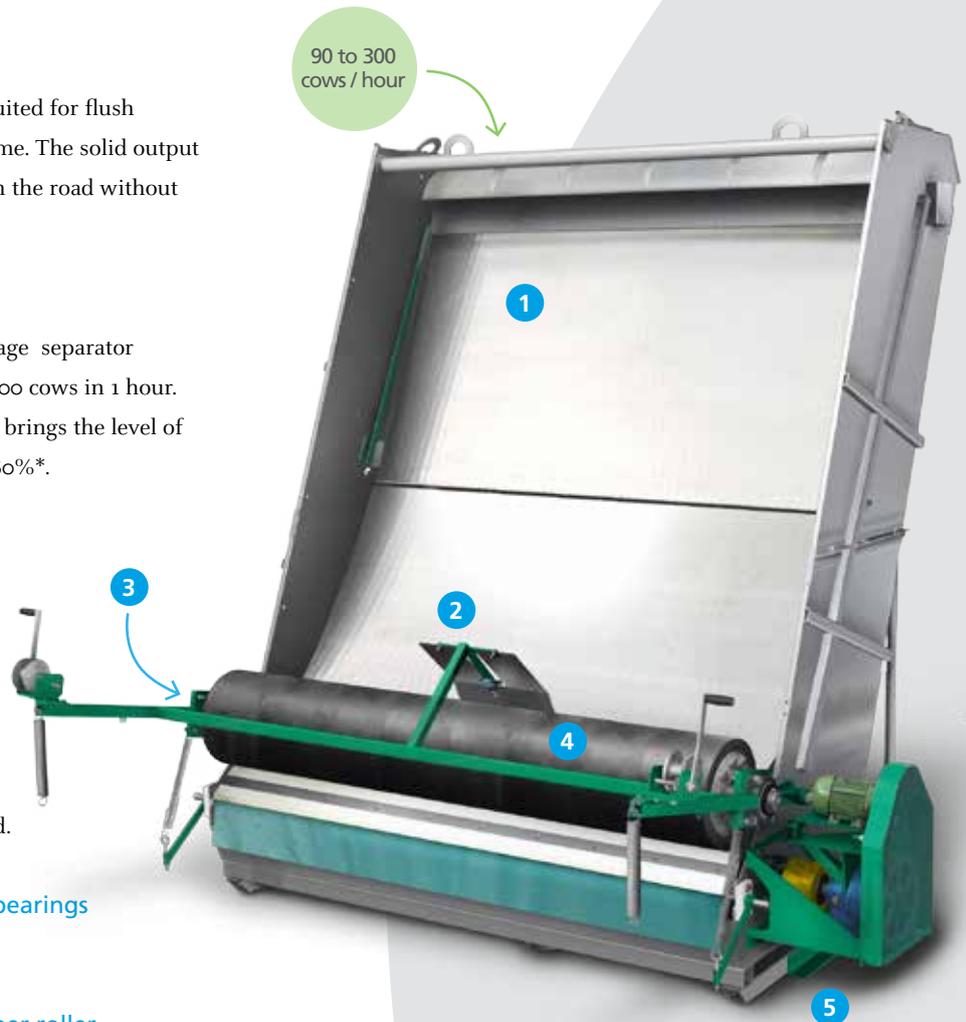
- 3 Smooth and long lasting operation.

### High-quality injection molded rubber roller

- 4 Rubber roller made of individual replaceable sections and bolted together. This design has a thick layer of rubber for better dampening effect and uses pressure injection molding technology for a secure bond between the rubber and the steel core.

### Low power consumption

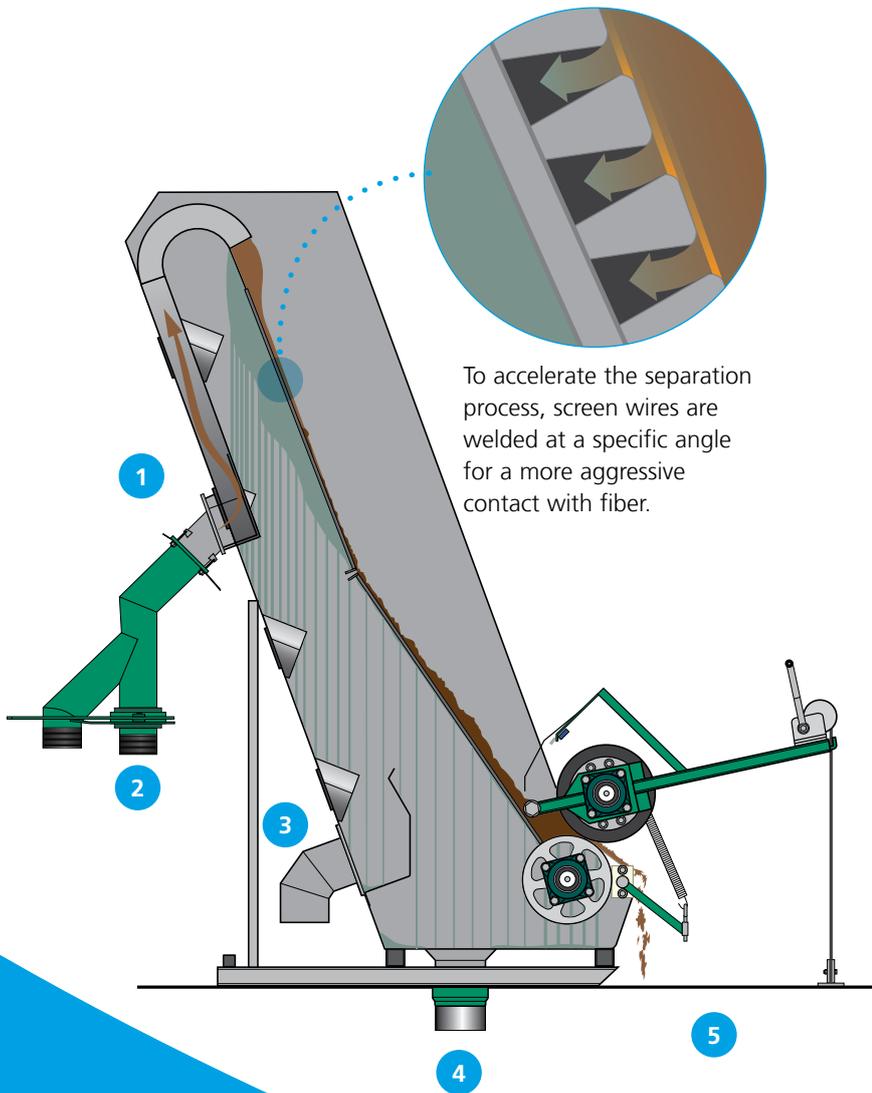
- 5 1 ½ HP (1.1 kW) motor.



The 2 stage sloped screen separator is fitted with a spring tension system to adjust the rubber roller pressure applied on the steel roller. The tension arms, at both end of the rubber roller, are connected by a pulley system and can be tensioned by one of the two winches on both tension arms.

\* The dry matter value given in this page is 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.

# Use gravity to separate manure with low solid content



To accelerate the separation process, screen wires are welded at a specific angle for a more aggressive contact with fiber.

## Working Principal

The sloped screen separator is typically installed on a platform approximately 14 feet (4 m) above a concrete dry pad. The liquid enters the separator through a center mid-level intake that distributes the flush liquid into an even smooth flow across the top screen panel.

The liquid gravity flows over hundreds of horizontal openings that are progressively enlarged from top to bottom in order to collect and dewater fiber on the screen while the liquid flows through it.

The wet fiber, sliding off the sloped screen, gets compressed between a rubber roller and a stainless steel screen roller before it falls on the concrete dry pad underneath. This process raises the dry matter rate approximately up to 20%\*.

Liquid is rejected through the 8 inch (203 mm) gravity discharge for further treatment.

*\* The dry matter value given in this page is 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.*

- 1** Inlet adaptor fitted with a liquid diverter bolted to the back frame of the separator. It enables easy replacement when the diverter plates are worn out from abrasive material in manure.
- 2** 6 inch (152 mm) Y intake with stone drain valve
- 3** Optional 8 inch (203 mm) additional drain - standard on the 8 x 12 feet screen model.

- 4** 8 inch (203 mm) discharge
- 5** Mounting platform is not offered through GEA. Engineering load data and drawings are available for locally made platforms.

### Unique to GEA sloped screen separator

- **Tilting screen system** — each screen section of 8FT sloped screen separators and 2 stages separator models are fitted with pivoting brackets to easily tilt them down. It facilitates access to the backside of the screens as well as the inside of the main frame.

### Features and options

- **Control panels** — a wide selection of available starter panels, including an intuitive sequencer panel to control additional manure management operations on farm from a single panel.
- **Inspection doors** — Quick and easy locking device. The inspection doors are all located at the back of all 8FT sloped screen separators and 2 stage separator models for easy cleaning.
- **Roll-up canvas** — prevent manure from drying up on the screen because of the wind and sun. Offered for all 8FT sloped screen and 2 stage separators.
- **Screen spray bar kit** — to keep the screen wet between separation cycles.

### Configurations available

**8FT sloped screen separator** — 8 x 8 feet (244 X 244 cm) screen size

- Stand alone
- With XPress 6FT or 8FT
- 2 stage separator

**8FT sloped screen separator** — 8 x 12 feet (244 X 366 cm) screen size

- Stand alone
- 2 stage separator

**4FT sloped screen separator** — 4 x 4 feet (122 X 122 cm) screen size

- Stand alone
- With XPress 4FT
- Cascading roller press system - XPress 4FT and 2FT

**6FT sloped screen separator** — 6 x 6 feet (183 X 183 cm) screen size

- Currently only in selected markets



### Stands and decks

Stands for sloped screen and 2 stage separator models are available when combined with a roller press system.

Front and side decks (shown above) are also available for easy access to the larger sloped screen separators - 8 x 8 feet (244 x 244 cm) and 8 x 12 feet (244 x 366 cm) screen sizes.



## 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 Germany

GEA Farm Technologies GmbH

Siemensstraße 25 - 27

D-59199 Bönen

Tel +49 23 83 93 7-0

Fax +49 23 83 93 8-0

[info@gea.com](mailto:info@gea.com)

[gea.com](http://gea.com)