PATENTS – US8544383, CA2727011, EP2477806

GEA XPress™

Reliable and efficient fiber separation system
to get the most out of manure.

GEA Engineering for a better world.

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The resulting long-fiber bedding material from the GEA XPress™ provides the best available comfort to your cows.

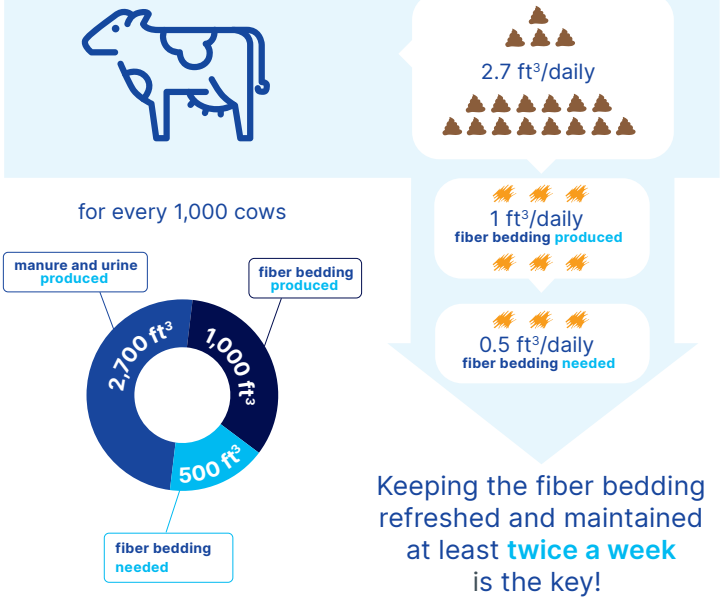
FIBER BEDDING: A SUSTAINABLE SOURCE OF COMFORT FOR YOUR COWS

High-quality long-fiber bedding
Extracting the longest possible fiber from manure is an important consideration in providing maximum comfort to your cows. GEA XPress™ systems preserve fiber length more effectively because fiber is squeezed, not ground, during the separation process.

Less surface area for bacteria to grow
When fibers are cut or broken during the mechanical separation process, the surface area per volume of bedding increases. This increased surface area means more available space for a growing bacterial population. Long-fiber bedding has less surface area and therefore reduced opportunities for bacteria to grow and spread.

Greater moisture absorbtion
Long-fiber bedding is more effective at absorbing moisture in the stalls. Short fibers become compacted in the stall and can't effectively absorb and hold moisture. As moisture seeps in from the outside, fibers are so tightly packed there is no way for moisture to travel into the small fibers in the middle of the bedding. By contrast, long fibers have less compaction, allowing moisture to travel throughout the bedding and resulting in cleaner and drier stalls.

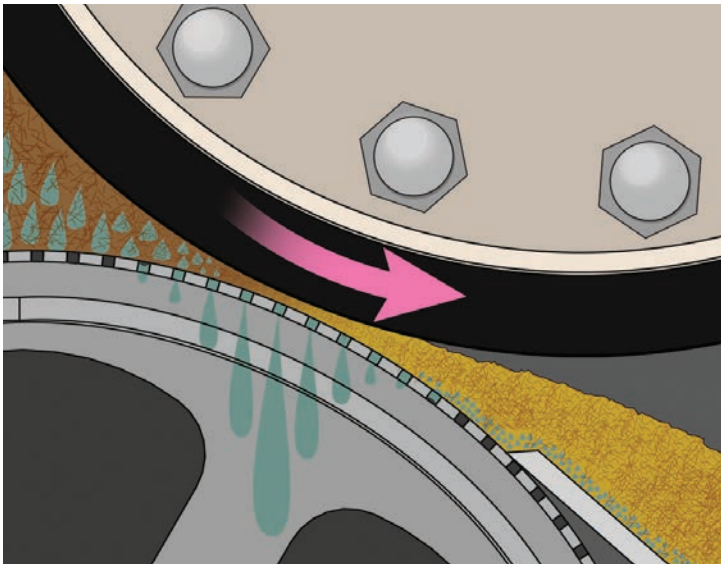
Manure separation at a glance



Keeping the fiber bedding refreshed and maintained at least **twice a week** is the key!

- Less time spent sourcing and hauling bedding.
- Consistent source of bedding that does not vary in cost and availability.
- Manure hauling expenses reduced.
- Potential for additional revenue from selling excess fiber.
- Less wear and tear on equipment and less storage space needed compared to other bedding types.

FIBER SEPARATION SYSTEM



The XPress™ requires minimal energy input and only basic maintenance for many years of trouble-free performance.

The XPress™ rotation pulls in a steady stream of material from the integrated regulator tank or dewatered material from a sloped screen or vertical dewaterer. The fiber material is squeezed between an upper rubber roller and a lower stainless steel screen to remove moisture. The extracted liquid is diverted from the fiber material via openings in the screen roller. The process is repeated two or three times depending on the capacity or dry matter rate targeted.

XPress™ main features

- The GEA XPress™ is constructed with grade 304 stainless steel – the frame, roller shield, motor table, roller arms and accessories.
- The rubber roller is made of small individual sections bolted together to provide easy rotation and replacement of the roller sections, when needed.
- Pressure is applied to the fiber with an air bag system built to handle the conditions in separation rooms. This system provides uniform material compression across the roll.
- Each steel roller and transition chute has an integrated rinsing system.
- Control panel with optional Variable Speed Drive (VSD).
- Each set of rollers uses only 1.5 HP (1.1 Kw).

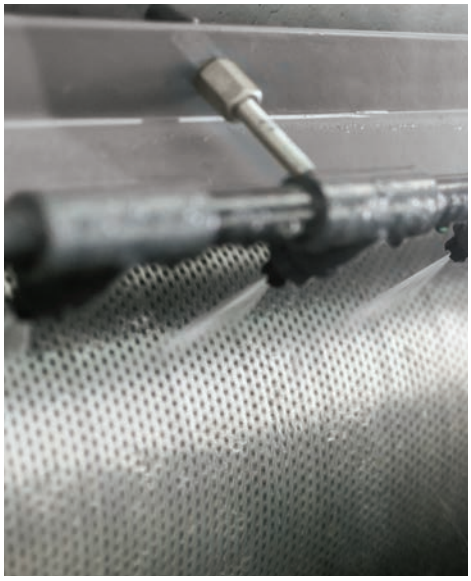
Laser level sensor

This sensor provides accurate readings of the level of solids in the hopper. Unlike mechanical level measurement devices, the laser level sensor is installed away from the slurry to avoid manure accumulation.

Laser level measurement is independent of pressure or temperature variations. Consequently, the speed of light passing through any gaseous medium does not vary. As a result, laser level transmitters offer accurate results with no calibration issues.

Simple to install, it provides quick and accurate responses compared to other alternatives. In addition, the laser allows the rollers to run at a lower RPM during normal operation. When the level of solids is high, the speed of the roller will increase for a short time and, then return to the lower speed. In case of extreme solids build up, the laser will stop the feed pump, reducing the risk of overflow.

Laser level sensor
This sensor provides accurate readings of the level of solids in the chute between each roller press system.



Integrated rinsing system
This rinsing system uses pressurized water to remove fiber buildup on each roller press and inside the hoppers between rollers.

Air bag pressure system
This system applies pressure on the rubber roller against the stainless steel screen roller to extract as much liquid as possible.

XPRESS™

90/hr

XPress™ 6FT - 4FT - 2FT
Treat between 40-100 US gpm
(33-83 Imp gpm and 150-380 lpm)
Solid output between 30-34% dry matter rate*

XPress™ with integrated regulator tank

The XPress™ is a modular system with a step down concept which allows increased pressure at each step for optimal moisture removal. The configuration with an integrated regulator tank is well suited to process manure that does not require dewatering prior the roller press separation treatment.

Manure consistency for optimal performance is from 1/2" to 1-1/2" (13 to 38 mm).

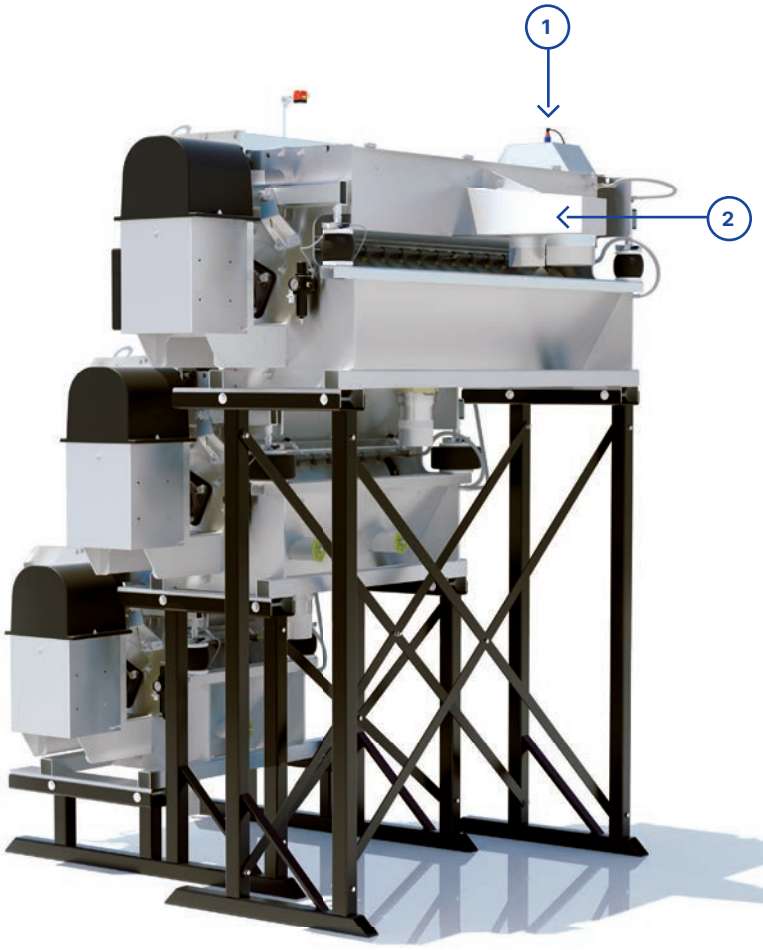
The integrated regulator tank, with its three level sonar, regulates the amount of manure that is transferred into the XPress™, to ensure proper separation.

- Stainless steel chute with spray bar transitions the fiber to the next roller press
- Equipment stands, side and three-side decks, as well as steps, are offerred with all XPress™ configurations to access crucial sections of the equipment.

* Performances may vary depending on manure consistency and fluidity, configuration and application. This data does not constitute warranties of any kind.

XPress™ 6FT - 4FT - 2FT
with integrated regulator tank
Shown with high stand for XPress™ 6FT
and two-level stand for XPress™ 4FT and 2FT

XPress™ 6FT - 4FT with integrated regulator tank
Treat between 30-75 US gpm (25-62 Imp gpm and 110-285 lpm) – 60 cows/hour
Solid output between 30-34% dry matter rate*



XPress™ integrated regulator tank intake and overflow

1. 3-level sonar to regulate the flow of material coming into the roller press.
2. 6” (152 mm) intake and 8” (203 mm) overflow. Appropriate feed and discharge hardware and plumbing offered.

XPress™ 2FT with integrated regulator tank
Treat between 10-35 US gpm (8-29 Imp gpm and 40-130 lpm) – 30 cows/hour
Solid output between 24-28% dry matter rate*

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*

XPRESS™

180-300/hr

XPress™ 6FT - 4FT - 2FT
Treat between 100-175 US gpm
(83-145 Imp gpm and 380-660 lpm)
Solid output between 30-34% dry matter rate*

XPress™ with Vertical Dewaterer and regulator tank

The XPress™ is a modular system with a step down concept which allows increased pressure at each step for optimal moisture removal. This configuration is required with thin manure.

Manure consistency for optimal performance is less than 1/2" (13 mm).

- The liquid level regulator tank is required with the Vertical Dewaterer. It provides a steady flow while preventing overflow.
- The Vertical Dewaterer removes excess liquid before the roller press treatment.
- Stainless steel chute with spray bar transitions the fiber to the next roller press.
- Equipment stands, side and three-side decks, as well as steps, are offerred with all XPress™ configurations to access crucial sections of the equipment.

* Performances may vary depending on manure consistency and fluidity, configuration and application. This data does not constitute warranties of any kind.

XPress™ 6FT - 4FT with Vertical Dewaterer and regulator tank
Treat between 100-175 US gpm (83-145 Imp gpm and 380-660 lpm) – 180-300 cows/hour
Solid output between 30-32% dry matter rate*

XPress™ 6FT with Vertical Dewaterer and regulator tank
Treat between 100-175 US gpm (83-145 Imp gpm and 380-660 lpm) – 180-300 cows/hour
Solid output between 24-28% dry matter rate*

XPress™ 6FT - 4FT - 2FT with Vertical Dewaterer and regulator tank

Shown with high stand for Vertical Dewaterer and liquid level regulator tank, high stand for XPress™ 6FT, two-level stand for XPress™ 4FT and 2FT, and side deck with safety rails and ladder.

RELIABLE DEWATERING PROCESS

Vertical Dewaterer
The Vertical Dewater is used as an up-stream dewatering treatment prior to the roller press. It can also be used as a stand-alone piece of equipment to thicken material for digestion or further treatment.

Liquid removal is done without pressure on the screen. A large heavy-duty auger moves the solid material to the top exit of the device while the liquid flows by gravity through the screen openings without pressure.

The solid output ranges between 17-18%*.

- No contact wear between the auger and the screen
- The auger is reversible which doubles its lifetime
- The back side of the screen is readily accessible for cleaning without having to dismantle the equipment

The liquid level regulator tank is required to feed a Vertical Dewaterer.

Liquid level regulator tank
The liquid regulator tank regulates the flow coming into the Vertical Dewaterer to ensure a smooth and effective dewatering treatment.

- 6” (15 cm) gate valve to completely drain the tank, when required.
- Slanted bottom of the tank with access doors on each side for easy cleaning.

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Stand-alone XPress™ 8FT or 6FT

To go with a GEA SlopeScreen™ or a GEA SlopeScreen™ XP for additional water capture and drier solid output.

GEA XPress™

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GEA Farm Technologies Canada Inc.

4591 boul. St-Joseph, Drummondville, Qc, Canada J2A 0C6
Tel +1 819 477 7444
Fax +1 819 477 5565

GEA Farm Technologies, Inc.

1385 N. Weber Road, Romeoville, IL 60446
Tel +1 800 563 4685
Fax +1 819 477 0486