



Technology/Service:	FAN Bedding Recovery Unit	Date:	February 28, 2018
Information by:	Jim DeWitt		

COMPANY INFORMATION

Company:	FAN Separator a BAUER Group Company		
Phone:	219-879-4986	Web Site:	https://www.fan-separator.de/en
Address:	107 Eastwood Rd	City:	Michigan City
State:	Indiana	Zip Code:	46360

TECHNICAL CONTACT

Name:	Jim DeWitt
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Email:	j.dewitt@bauer-at.com
Address:	107 Eastwood Rd
City:	Michigan City
State:	IN
Zip Code:	46360

DEMONSTRATION SITE CONTACT

Site Name:	
Contact:	Same as Business Contact
Title:	
Phone:	
Email:	
Address:	
City:	
State:	
Zip Code:	

INITIAL TECHNOLOGY OVERVIEW

This information is to guide in the development of a more specific and detailed Technology Information Request. Please answer the following questions for each Technology or Service Provided.

What is the name of the technology or service you provide?

The Bauer Group manufactures FAN **Bedding Recovery Units** which processes cow manure into clean, dry bedding

Describe how this technology is used in a larger Nutrient Management System. Please be as detailed as possible.

The FAN Bedding Recovery Unit (BRU) creates fresh bedding every day. The equipment is an insulated compost dryer that treats the solids in an intensive aerobic process that kills bacteria and dries the material. The process ensures a consistent mixture that is treated in a controlled environment. The chemistry of the manure is changed to eliminate mastitis producing microorganisms that existed in the fresh manure, producing a safe, comfortable bedding product.

How many systems do you have installed on dairy farms or other livestock operations?

SYSTEMS	NUMBER OF SITES	SIZE OF INSTALLATIONS
Dairy	80	250 - 4000
Pork	0	

Poultry	0	

What's the smallest and largest farm using your system?

Dairies range in size from 250 cows to more than 4,000 cows

Does this technology have a 12-month record of reliable performance on at least three dairy farms?

Yes

Do you have a preferred region or area for the location of projects?

North America and worldwide

Input and output of your unit/system – do you have a mass balance analysis?

If a mass balance is available, please include below or attach as a separate document.

Input are solids separated from raw cow manure. Output is a bacteria free, dry bedding fiber material

Input material description and characteristics:

For example: raw manure, digestate, screened digestate, suitable non-farm feedstocks, other.

The input is separated undigested fiber from livestock manure, directly from a manure solids separator

Does the technology treat the full manure stream for a farm or a fraction of the stream?

Full stream

Do you consider this a mature system or ongoing farm development?

This is a well-proven technology with many installations worldwide

Any weather constraints? Yes No *If so, please describe.*

Protection in freezing weather

Any bedding constraints? Yes No *If so, please describe.*

Does not treat sand bedding

Output material description and characteristics:

Please include the % of the total stream for each material, i.e. 10% fiber and 90% screened liquid by weight.

Pathogen-free animal bedding at 36% to 46% dry matter

Do the Outputs of the process have a resale market identified? Yes No

If so, under what brand name or who is the contract with?

A few Dairies bag and sell compost from a BRU under a private label

Is this process scalable and to what extent (top and bottom limits)? Yes No *If so, please describe.*

Yes, the process is scalable

Do you have a known scaling factor? Yes No *If so, please describe.*

Does this technology require any air input? Yes No

What is the preferred air connection? *For example: psi, fitting size, air quality.*

If not distributed by the system, please list each connected device.

Does this technology require any water input? Yes No If so, please describe.

Fresh water for cleaning

What is the preferred water connection? For example: psi, fitting size, water quality, gpm.
If not distributed by the system, please list each connected device.

Does this technology require any electrical input? Yes No If so, please describe.

What is the preferred electrical connection? For example: phase #, voltage, full load amps.
If not distributed by the system, please list each connected device.

Three-phase, 480 volt, 100 amp circuit

Does this technology require any mechanical input? Yes No If so, please describe.

What is the preferred mechanical connection? For example: horsepower, connection, rpms.
If not distributed by the system, please list each connected device.

Does this system require any special plumbing? Yes No If so, please describe what is required.

Does this system require any special foundations or pads? Yes No If so, please describe.

Concrete pad according to manufactures specifications

Do you consider this technology part of a larger system that you provide? Yes No If so, please describe.

Does your system require any other components that you do not provide or are not included in your proposal? Yes No
If so, please describe.

. Conveyor

How is the system delivered to the site? For example: skid mounted, assembled on site, constructed on site.

Skid mounted delivered to the site

Is this system portable or configured in such a way that it could be easily transported for use in several locations?

Yes No If so, please describe.

Has your technology been accepted by the NRCS and is it included into a practice standard? Yes No
If so, please describe if necessary.

Nutrient recovery

Are there any unusable or hazardous byproducts of this process? Yes No
If so, please describe the product and recommended means of disposal.

What spare parts and redundant components are included with the system?

Spare parts are industry standard and available through the FAN distributor network

How is the system controlled and what are the components and capabilities of the control system?

PLC controlled from mounted integrated control panel

What is the usable life of the system?

Twenty years

What is the salvage value at the end of the usable life?

Minimal

What is the educational and technical level of competence for the operation of the system?

Trained labor should be able to operate the system, including routine maintenance.

What level of maintenance is required for the system?

Please indicate if rebuilds or major components must be replaced and what the frequency is for these components.

Component parts require maintenance and replacement per maintenance schedule. Daily inspections and periodic response to system upsets are required.

Are consumables used in the process? Yes No

Please provide the nature and purchase relationship for these consumables. For example: proprietary, special contract, generally available.

Which of these NRCS codes would your technology be classified under? Check all that apply. Add if necessary.

CODE	NRCS DESCRIPTION	CHECK ALL THAT APPLY
472	Access Control	<input type="checkbox"/>
560	Access Road	<input type="checkbox"/>
309	Agrichemical Handling	<input type="checkbox"/>
371	Air Filtration and Scrubbing	<input type="checkbox"/>
591	Amendments for the Treatment of Agricultural Waste	<input type="checkbox"/>
366	Anaerobic Digester	<input type="checkbox"/>
672	Building Envelope Improvement	<input type="checkbox"/>
372	Combustion System Improvement	<input type="checkbox"/>
317	Composting Facility	<input type="checkbox"/>
554	Drainage Water Management	<input type="checkbox"/>
375	Dust Control from Animal Activity on Open Lot Surfaces	<input type="checkbox"/>
373	Dust Control on Unpaved Roads and Surfaces	<input type="checkbox"/>
374	Farmstead Energy Improvement	<input type="checkbox"/>
512	Forage and Biomass Planting	<input type="checkbox"/>
561	Heavy Use Area Protection	<input type="checkbox"/>
516	Livestock Pipeline	<input type="checkbox"/>
590	Nutrient Management	<input checked="" type="checkbox"/>
521A	Pond Sealing or Lining, Flexible Membrane	<input type="checkbox"/>

533	Pumping Plant	<input type="checkbox"/>
588	Roof Runoff Structure	<input type="checkbox"/>
367	Roofs and Covers	<input type="checkbox"/>
318	Short-Term Storage of Animal Waste and By-Products	<input type="checkbox"/>
570	Stormwater Runoff Control	<input type="checkbox"/>
606	Subsurface Drain	<input type="checkbox"/>
635	Vegetated Treatment Area	<input type="checkbox"/>
601	Vegetative Barrier	<input type="checkbox"/>
360	Waste Facility Closure	<input type="checkbox"/>
632	Waste Separation Facility	<input checked="" type="checkbox"/>
313	Waste Storage Facility	<input type="checkbox"/>
634	Waste Transfer	<input type="checkbox"/>
629	Waste Treatment	<input checked="" type="checkbox"/>
359	Waste Treatment Lagoon	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>

Can you provide an estimate of the capital required for the installation of this technology?

Please include all components and designate if provided by you or others.

BRU-Compact \$260,000 BRU2000 \$308,000 plus pump and mixer \$20,000

Can you provide an estimate of the operational costs required for this technology?

Please include all costs and designate if provided by you or others.

BRU-Compact: 12,75kW (excluding pump and mixer)

BRU 2000: 11,22kW (excluding pump and mixer)

Is there financing available for this system? Yes No *If so, what are the conditions for this financing?*

Equipment financing options are available through most Fan equipment dealers

Is the system available for lease? Yes No *If so, please describe.*

What sort of warranty or guarantee do you provide with this technology?

Do you provide any performance guarantees or strictly defects in parts and materials?

FAN equipment warranties are available. Technology specific performance guarantees are also available specific to throughput, dry matter, pathogen kill, etc. depending on the equipment.

Explain how this system is unique or transformative and how does it improve upon or go beyond other technologies that are currently available.

The unique aspect of the Press Screw Separator is that it can adjust to different dry matter contents. Thick liquids (20% dry matter content) as well as thin liquids (below 0.1 % dry matter content) can be treated optimally. The consistence of the gained solid can be varied with the help of a patented output regulator by the amount and position of counter weights. This enables dry matter contents in the range between 25 and 55 percent.

Would you be willing to provide a location for a site visit by Newtrient? Yes No *If so, please provide location.*

TECHNOLOGY REFERENCES

Please provide customers with whom we can discuss this technology and its performance.
Include a company name, location, contact name and contact information.

Reference 1

Company Name:	
Company Location:	
Contact Name:	
Contact Information:	

Reference 2

Company Name:	
Company Location:	
Contact Name:	
Contact Information:	

Reference 3

Company Name:	
Company Location:	
Contact Name:	
Contact Information:	

Reference 4

Company Name:	
Company Location:	
Contact Name:	
Contact Information:	

Are there any other facts about this technology that you feel should be included in this document?