TECHNOLOGY PROVIDER
TECHNOLOGY INFORMATION REQUEST

Technology/Service:	FAN Press Screw Separator		
Information by:	Jim DeWitt	**Date:**	February 28, 2018

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
Phone:	630-750-3482
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 and Fan press screw separators are the industry standard. The company has a long track record of manufacturing reliable solid-liquid separation equipment with thousands of installations in the United States.

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

The FAN press screw separator is the leader in design, reliability and longevity. Manure enters the separator in raw form. The manure is pressed outward through a stainless steel screen reducing the moisture content up to 62%. The material is then discharged into a conveyor where it is stacked. The product it produces is the driest available of any brand or type of separator!

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

SYSTEMS	NUMBER OF SITES	SIZE OF INSTALLATIONS
Dairy	8,000 (worldwide)	50 cow to 10,000 cows/complex
Pork	1,000 (worldwide)	1000 hogs up

Poultry	100	

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

Dairies range in size from 50 cows to more than 10,000 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 is the raw manure stream. Output is separated solids and the liquid fraction. Moisture content in the solids is reduces up to 62%.

Input material description and characteristics:
For example: raw manure, digestate, screened digestate, suitable non-farm feedstocks, other.

Full stream of raw manure or digestate. Modular design allows for redundancy

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 hundreds of installations worldwide

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

Cold weather protection. Freeze proof.

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

Sand bedding can cause premature wear. Sand separation should be used to limit damage to separator and application equipment

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.

Up to 35% solids and 65% separated liquids by weight

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?

Other farms for bedding or nutrient usage and landscapers

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 only

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.

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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.*

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.

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

Skid mounted delivery to 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.*

Can be, mobile units available

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 management

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 distributer 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	☐
560	Access Road	☐
309	Agrichemical Handling	☐
371	Air Filtration and Scrubbing	☐
591	Amendments for the Treatment of Agricultural Waste	☐
366	Anaerobic Digester	☐
672	Building Envelope Improvement	☐
372	Combustion System Improvement	☐
317	Composting Facility	☐
554	Drainage Water Management	☐
375	Dust Control from Animal Activity on Open Lot Surfaces	☐
373	Dust Control on Unpaved Roads and Surfaces	☐
374	Farmstead Energy Improvement	☐
512	Forage and Biomass Planting	☐
561	Heavy Use Area Protection	☐
516	Livestock Pipeline	☐
590	Nutrient Management	☑

521A	Pond Sealing or Lining, Flexible Membrane	☐
533	Pumping Plant	☐
588	Roof Runoff Structure	☐
367	Roofs and Covers	☐
318	Short-Term Storage of Animal Waste and By-Products	☐
570	Stormwater Runoff Control	☐
606	Subsurface Drain	☐
635	Vegetated Treatment Area	☐
601	Vegetative Barrier	☐
360	Waste Facility Closure	☐
632	Waste Separation Facility	☑
313	Waste Storage Facility	☐
634	Waste Transfer	☐
629	Waste Treatment	☑
359	Waste Treatment Lagoon	☐
		☐
		☐
		☐

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.

PSS1.1-300 up to 400 cows $16,000 - PSS3.3-780HD 400–1200 cows $85,000 (this model makes 38% DM bedding – highest quality)

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.

Ex. 1000 cow Dairy – 10hr operation per day, $10,000 maintenance cost yearly

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 warrantee or guarantee do you provide with this technology?
Do you provide any performance guarantees or strictly defects in parts and materials?

Equipment warrantees are available through the FAN distributor network. Guarantees are technology/application specific to throughput, dry matter, pathogen kill, etc. depending on the technology

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?