



Technology/Service: Centrifuge

Information by: Jeramy Sanford

Date: 2.23.17

COMPANY INFORMATION

Company Name: GEA Houle Inc.

Phone: 819-477-7444

Web Site: http://www.gea.com/

Address: 4591 Boulevard St-Joseph

State: Drummondville

City: QC, Canada

Zip Code: J2B 6W3

TECHNICAL CONTACT

Name: Jeramy Sanford

Phone: 630-453-8867

Email: jeramy.sanford@gea.com

Address: 1880 Country Farm Dr.

City: Naperville

State: IL

Zip Code: 60563

DEMONSTRATION SITE CONTACT

Site Name:

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?

Centrifuge

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

The GEA centrifuge is used post primary separation and prior to downstream water treatment to remove Phosphorus, nitrogen and fine solids.

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

	Number of Sites	Size of Installations
Dairy	>20	Varied
Pork	>20	Varied
Poultry		

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

Worldwide

Location of farm(s)?

Worldwide

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

We utilize 5 sizes of centrifuge to fit any size farm

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

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

Please contact a company representative as systems vary.

Input material description/characteristics:

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

Raw manure
Digestate
Screened Digestate
Suitable non-farm feedstocks
Other

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

This equipment treats a fraction as it is part of the bigger system.

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

The system is mature with over 130 years of experience, farm development continues to develop.

Any weather constraints? Yes No *Please describe.*

Non-freezing building

Any bedding constraints? Yes No *Please describe.*

Sand bedding greatly effects wear, grit removal is required prior to the centrifuge if sand is used.

Output materials description and characteristics:

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

Varies, see company representative.

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?

Is this process scalable and to what extent (top and bottom limits)? *Please describe.*

We utilize 5 sizes of centrifuge to fit any size farm

Do you have a known scaling factor? *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.*

System requires a wash, well water is required.

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.*

Varied

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

Varies by centrifuge size, contact a company representative.

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

All are usable

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 technology require any special plumbing? Yes No *Please describe what is required.*

Feed and drain lines

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

Engineered drawing and schematics are provided with purchase.

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

We also provide primary separation, secondary separation and nutrient partitioning.

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.*

varies

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

Can be delivered skid mounted or assembled on site.

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

Yes No *Please describe.*

We can provide separation trailers for portable use.

Has your technology been accepted by the NRCS and is it included into a practice standard? Yes No

Describe if necessary.

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?

A complete spare parts selection is provided.

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

GEA supplied control panels.

What is the usable life of the system?

See company representative

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

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

Process understanding, PLC understanding, process flow and basic mechanical aptitude.

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.

We offer a complete maintenance program or we can train on-site staff.

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.

Polymer systems are available.

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.

See company representative

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.

Yes, see company representative.

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

Is the system available for lease? Yes No *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?

one year manufacturer warranty, extended warranties available

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

There are many proprietary advantages to the GEA centrifuge that offer benefits in maintenance, capture rate, operational costs and longevity. See company representative for details.

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?

GEA manufacturers decanter style centrifuges specifically for farm use with a range of sizes, the ability for on site repair and a complete dealer support network.