



Technology/Service: JWC Environmental - Monster Industrial Grinders

Information by: Stacy Peshkopia, Product Manager

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COMPANY INFORMATION

Company: JWC Environmental

Phone: 800-331-2277

Web Site: <https://www.jwce.com/application/agriculture/>

Address: 2850 Red Hill Ave., Suite 125

City: Santa Ana

State: CA

Zip Code: 92705

TECHNICAL CONTACT

Name: Rob Sabol

Phone: (714) 428-4656

Email: robs@jwce.com

Address: 2850 Red Hill Ave, # 125

City: Santa Ana

State: CA

Zip Code: 92705

DEMONSTRATION SITE

Site Name: There are several demonstration sites available. Please contact Stacy Peshkopia, Product Manager

Contact: Stacy Peshkopia

Title: Product Manager

Phone: (714) 428-4768

Email: stacyp@jwce.com

Address: 2850 Red Hill Ave, # 125

City: Santa Ana

State: CA

Zip Code: 92705

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?

JWC Environmental - Monster Industrial Grinders

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

For dairies and livestock operations that process animal waste, JWC's grinders and macerators are often used to ensure manure or other slurry feedstocks do not clog pumps or pipelines. The Bridgewater Dairy in Ohio processes cow manure in a digester as part of their manure management plan to generate electricity and supply animal bedding. According to the dairy owner, Chris Weaver, "any foreign material other than actual manure that gets in the methane digester and post-digester processing systems can cause frequent removal and cleaning of the mechanical screens used to catch large solids". To improve on this, the dairy installed a JWC HYDRO Inline Grinder that cuts through rocks, wood, clothing, plastics, bone and many other unexpected solids. Now the digester and manure processing systems operate very efficiently saving the dairy about 20 hours of extra maintenance work per week.

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

SYSTEMS	NUMBER OF SITES	SIZE OF INSTALLATIONS
Dairy	12	450 gpm up to 6,860 gpm
Pork	0	
Poultry	0	

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

3,000 cows to over 30,000 cows. The Bridgewater Dairy has 4,000 cows, Fair Oaks has 30,000 cows, Threemile Canyon Farms has 24,000 cows, Homestead Dairy has 3,400 cows.

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

Yes, JWC's grinders have excellent annual performance and reliability for on farm operations.

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

North America

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.

No change in mass from the grinding technology.

Input material description and characteristics:

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

Any foreign material that may be mixed in the actual manure stream

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

The system treats the full manure stream.

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

JWC's biomass grinding systems are a mature technology with several hundred systems operating.

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

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

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.

The output material is input material reduced in to protect downstream pumps, valves and other equipment.

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?

N/A

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

450 gpm up to 6,860 gpm

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.

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.

5-10 hp (3.7-7.5 kW) motors

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

Normally, 3 phase, various voltages available

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.

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.

Additional components can be included such as, customized cutting tooth sizes, frames to fit each site, shredder support base, smart controllers and more.

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

Installed 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 If so, please describe.

The system is not "portable" but can be relocated

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

If so, please 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?

JWC provides a full line of spare parts and service.

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

The grinder is controlled for automated operation using on-line PLC system.

What is the usable life of the system?

With continued O&M servicing, the grinder should allow for a 10 to 15-year expectancy.

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

Depending on equipment condition, the grinder should have salvage value

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

JWC offers complete operational and maintenance training and service

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.

Standard inspection, component parts replacement schedule and periodic response to system alert notifications.

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 (assuming the grinder is part of a manure digester system)	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 checked="" type="checkbox"/>
672	Building Envelope Improvement	<input type="checkbox"/>
372	Combustion System Improvement	<input type="checkbox"/>
317	Composting Facility	<input checked="" 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 checked="" type="checkbox"/>
590	Nutrient Management	<input checked="" type="checkbox"/>
521A	Pond Sealing or Lining, Flexible Membrane	<input type="checkbox"/>
533	Pumping Plant	<input checked="" 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 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.

Estimated capital costs are provided on a project by project basis.

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.

Estimated annual operations and maintenance costs on a project by project basis

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

JWC Environmental does not offer financing directly.

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?

Strictly defects in parts and materials.

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

JWC Environmental’s HYDRO series are high efficiency, dual-shafted waste grinders used by dairy operations. The Hydro series is designed to reduce the size of solids in the raw manure stream to protect downstream pumps, valves centrifuges and heat exchangers and other equipment. Applications include diogas digesters, sludge, sewage and more.

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

A case study is available for Bridgewater Dairy in Ohio.

<https://www.jwce.com/wp-content/uploads/sites/3/downloads/2013/08/Bridgewater-Dairy.pdf>

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:	Bridgewater Dairy
Company Location:	Montpelier, OH
Contact Name:	
Contact Information:	

Reference 2

Company Name:	Homestead Dairy
Company Location:	Plymouth, IN
Contact Name:	
Contact Information:	

Reference 3

Company Name:	Fair Oaks Dairy
Company Location:	Fair Oaks, IN
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?