

celitron

WE THINK GREEN!

## THE INNOVATIVE RENDERING SOLUTION

for fish, poultry, meat, bones, offal, carcasses, feathers and blood

## ISS AGRI FACILITY



[www.celitron.com](http://www.celitron.com)

## What kind of problems do slaughterhouses and farms face?



High contamination risk due to stored waste at slaughterhouses



High contamination risk due to transporting waste to rendering facilities



Rendering plants are a major odor and environmental threat



Low value generated from blood and feather



Low value generated from animal waste



High transportation costs

## The Solution

The ISS AGRI Facility has been developed to recycle by-products of the agricultural and food industries on site. The system is designed to treat all agricultural by-products, such as blood, fat, feathers, animal carcasses, including poultry, fish, cow, pig and sheep.

This is a continuous and automated process, including sterilization and shredding in the Integrated Sterilizer & Shredder, separating solids, oil and water. The end products from the system are dried meals and fat that are used as ingredients for the animal and pet feed industry.

## The New Rendering Solution for fish, poultry and meat

With Celitron's solution the following benefits can be achieved:

- All waste generated at the slaughterhouse can be treated locally and immediately
- with our patented medical sterilization and shredding technology it eliminates all pathogens, prevents any disease from spreading and eliminates possible contamination risks.
- generating better quality meal and oil as a result of the innovative technology and short processing time
- less odor released to the environment
- lower energy consumption due to shorter cycle time and pressure vessel
- by using the system smaller footprint is needed compared to storing the waste
- higher value generated from special waste (blood, feather)
- no transportation of waste needed
- the same equipment can process all types of waste.



# High quality meal & oil



Animal fat

Meat meal  
(pork, cow, etc.)

Poultry meal

Feather meal



Blood meal

Bone & blood meal

Fish meal & oil

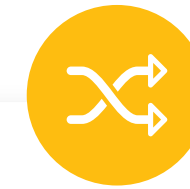
**High nutritional quality final product due to mild production process.**

# ISS AGRI Facility Advantages



## High quality products

- High nutritional quality due to mild production process
- complete sterilization of the product
- closed system
- immediate, onsite treatment.



## Flexibility

- The same line can process all types of animal by-products
- the line can be installed to process as low as 5-100 tonne/day of raw materials
- the line can be installed in a very limited space
- small footprint.



## No environmental impact

- No emission of odors
- no risk of contamination
- no production of organic, solid waste.



## Fast return on investment

- Lower energy consumption due to eliminating cooking and pressing phases
- no need for storage and transportation of raw materials
- minimal manpower is needed to control and operate the line.



# How does it work?

## The ISS AGRI Facility Rendering Process

**Scrubber:** It is an air pollution control equipment that is designed to remove harmful gases from the facility's exhaust streams.

**ISS (Integrated Sterilizer & Shredder):** Liquidizing and sterilizing of raw material (121-134°C). The ISS performs both shredding and steam sterilization in a single pressure vessel. The vessel is fitted with a motor-driven shaft with powerful shredding/crushing blades that can rotate in two directions. Shredding is important as it enhances the steam penetration, therefore improves the overall sterilization results. At the end of the process the material becomes a thick, watery solution, clean of bacteria, viruses and Prions.

**Decanter:** Continuous separation of the "soup" into liquids and solids. The liquids (oil & water) are conveyed to a separator. The solids are conveyed to a dryer.

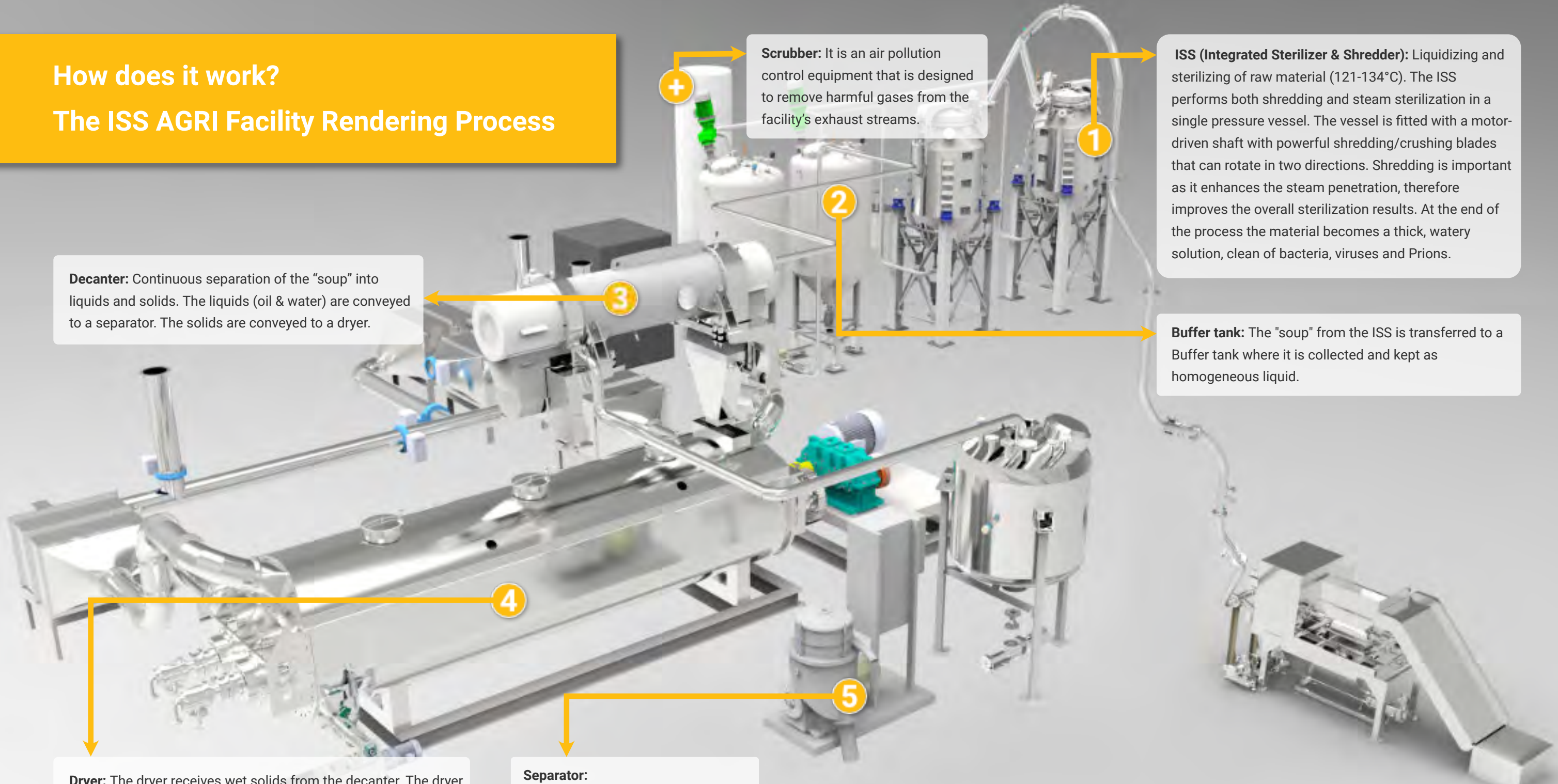
**Buffer tank:** The "soup" from the ISS is transferred to a Buffer tank where it is collected and kept as homogeneous liquid.

**Dryer:** The dryer receives wet solids from the decanter. The dryer can reduce the water content of the solids to less than 5%. After the dryer the meal is ready for bagging.

**Separator:** Effective separation of oil and water.

**Pre-shredder and pump:** The pre-shredding makes it possible to put large, raw animal body parts or large amount of animal waste into the system. The pre-shredded material will be transferred up into the ISS, that has the loading door on the top. This machine helps to fill it up fast and easy.

**Automatic system:** PLC controlled system to control all processes





## The ISS AGRI Facility Key components

### ISS:

- Shredding and sterilizing the organic material in a single, closed vessel
- sterilization only with steam under pressure
- in the ISS the input material is completely liquidized into a "soup"
- patented technology developed and adapted from the medical field
- high nutritional quality end-product due to mild production process.



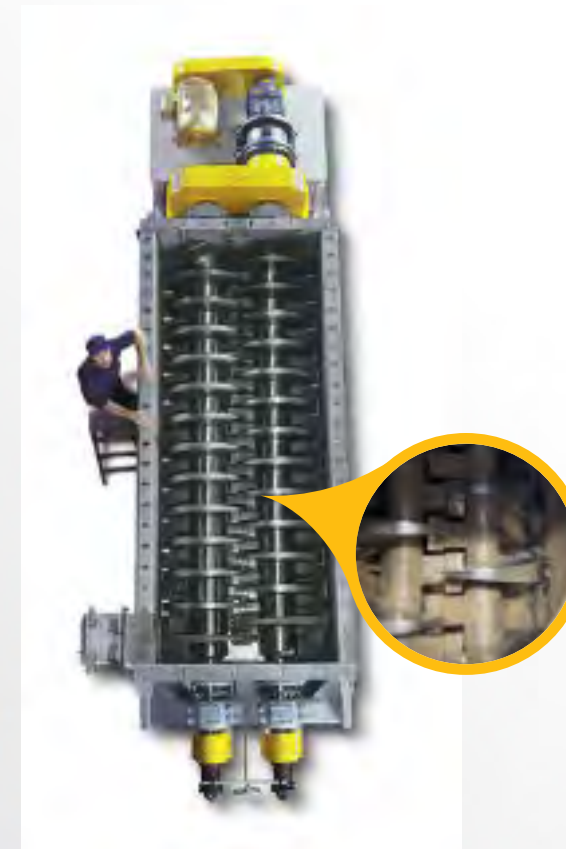
### Decanter:

- Continuous separation of the "soup" into liquids and solids.



### Dryer:

- The dryer can reduce the water content of the solids to less than 5%.



### Separator:

- Separates the water from the oil.



### Final product storage:

- The meal powder is conveyed directly to a big bag
- the oil is stored in a container.





## Capacity

The ISS AGRI Facility can process 5-100 tonne of raw material /day. Celitron offer a tailor-made solution based on customer needs.



## Our history

Celitron develop and manufacture advanced bio waste treatment and sterilization solutions for medical facilities, pharmaceutical companies and the agriculture industry.



### Patented Technology



- 500+ medical waste units deployed
- 5000+ sterilizers
- In 80+ countries around the world



Compliance with the highest international regulatory requirements:  
DIRECTIVE 2014/68/EU,  
REGULATION (EU) 2017/745  
ISO 13485:2016  
ISO 9001:2015  
CE, TÜV



**High, innovative drive,  
R&D focused**

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## Who are we?

**Celitron is a Hungarian (EU) manufacturing company** with R&D focus on sterilization and bio waste treatment systems. We have an international presence, with more than 500 deployed medical waste treatment units and over 5000 deployed steam sterilizers in over 80 countries worldwide.



Ref: OP-0191 v.01.0, 2021.10.12, Celitron Medical Technologies Kft. reserves the right to modify the products without any notice.

### Celitron Medical Technologies Kft.

**Address:**

Szent László út 36., 2600 Vác,  
Hungary

**Phone:** +36 70 643 8995

**Web:** [www.celitron.com](http://www.celitron.com)

**Email:** [info@celitron.com](mailto:info@celitron.com)

ISO 9001 and ISO 13485 certified company  
with CE certified products

