



BIO-RESPONSE
SOLUTIONS

*Quick Overview



PET-400

Alkaline Hydrolysis System

Patent Pending


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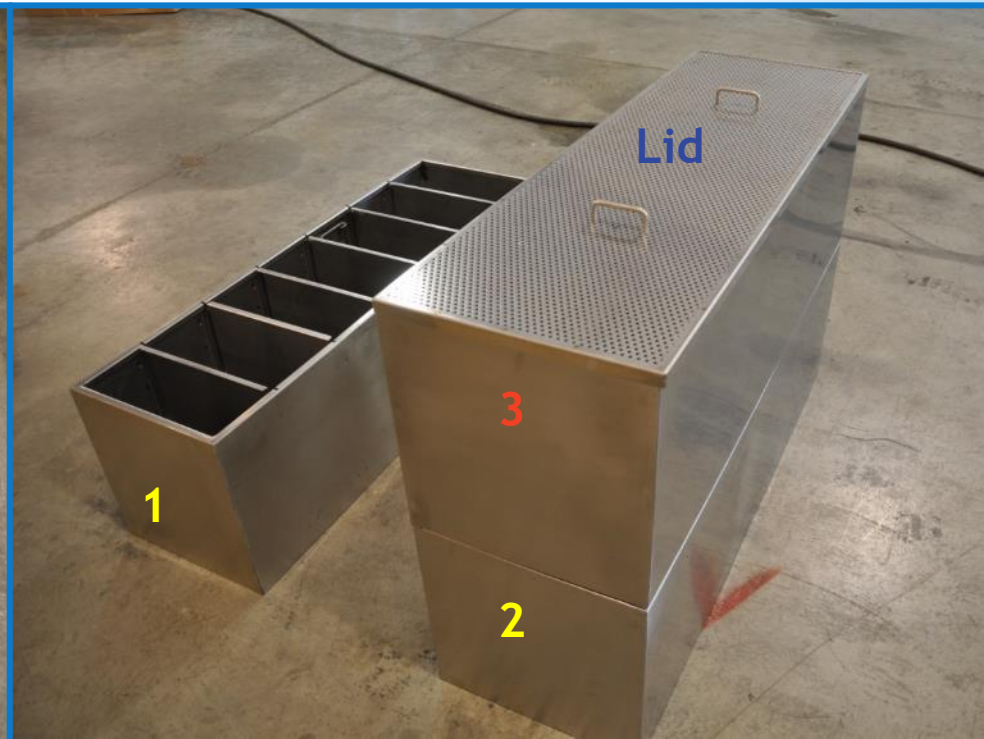
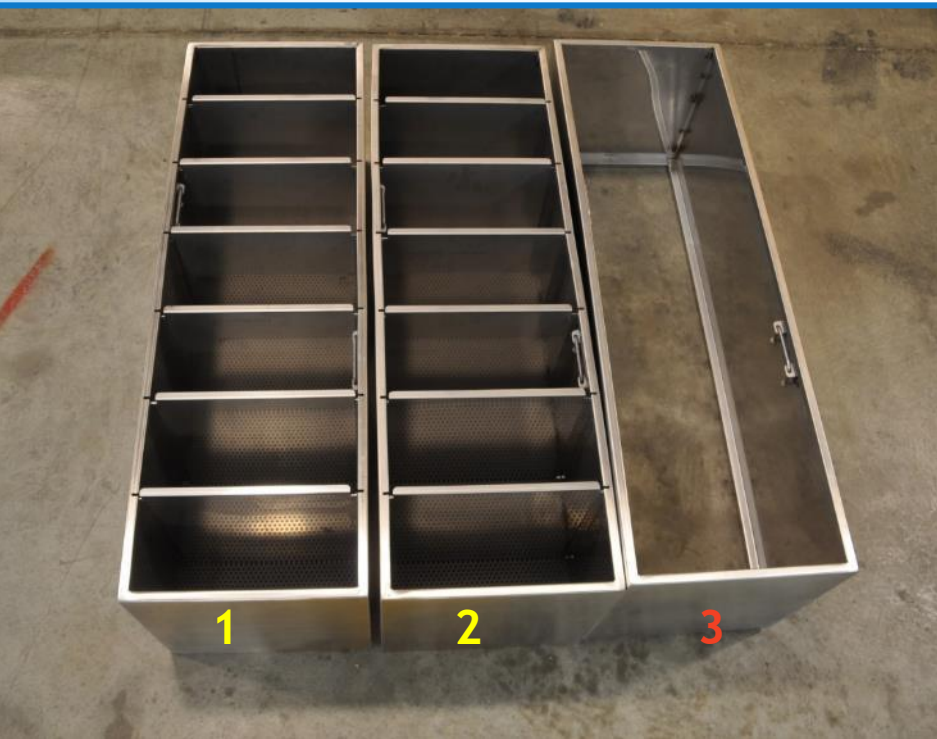
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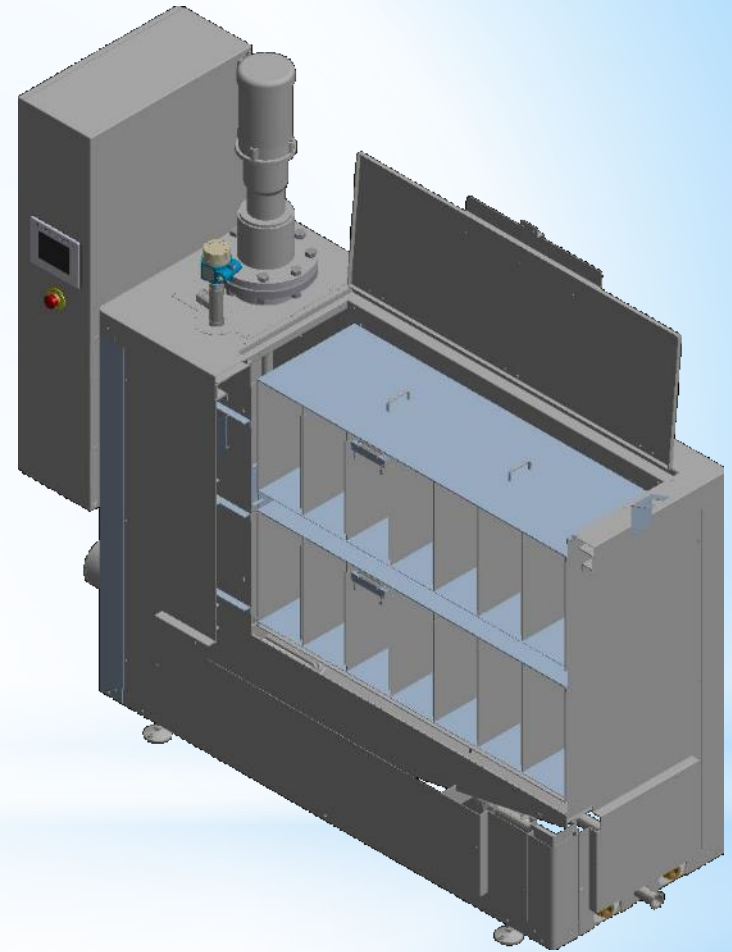
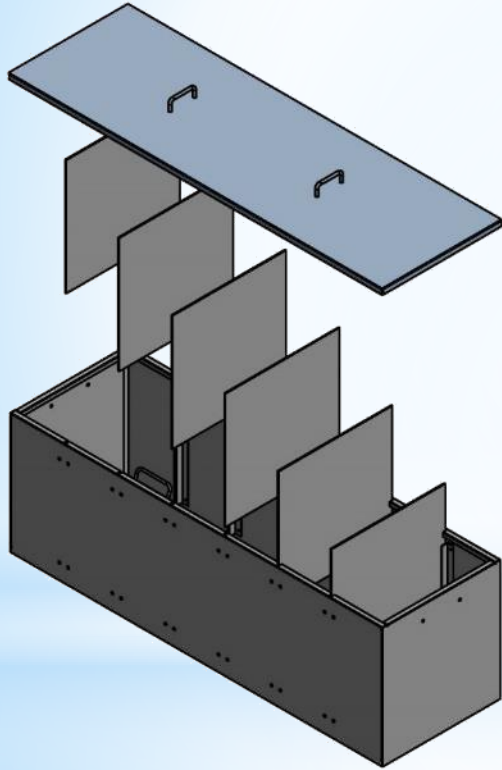
 How the
compartments
work

Each PET-400 System comes standard with our complete basket system.

- This includes 3 baskets, a top lid, and a bone remains collection scoop.
- All dividers in the segregated baskets (**1** and **2**) are removable so the operator can tailor the size of the cradle compartment to each pet's size. Two "spaces" would be used for a medium-sized dog.
- The system can process a full or half cycle. Two baskets fit inside the machine for a full level cycle. A half cycle uses one basket. The **lid** fits on the top basket in either scenario.
- If the operator would like to process a very large pet, or a non-segregated communal process, the bottomless communal basket "**3**" can be combined with a segregated basket "**1** or **2**" to form a single large communal basket.



The dividers in the PET-400 system slide in and out with ease to accommodate the needs of each cycle.



Above: A PET-400 cutaway showing two segregated baskets in the system for a full-level cycle.

Mini basket dividers are optional (shown lower right), and are suitable for small animals such as cats and small dogs up to 15 pounds each. Contact us about the price and availability of mini dividers.



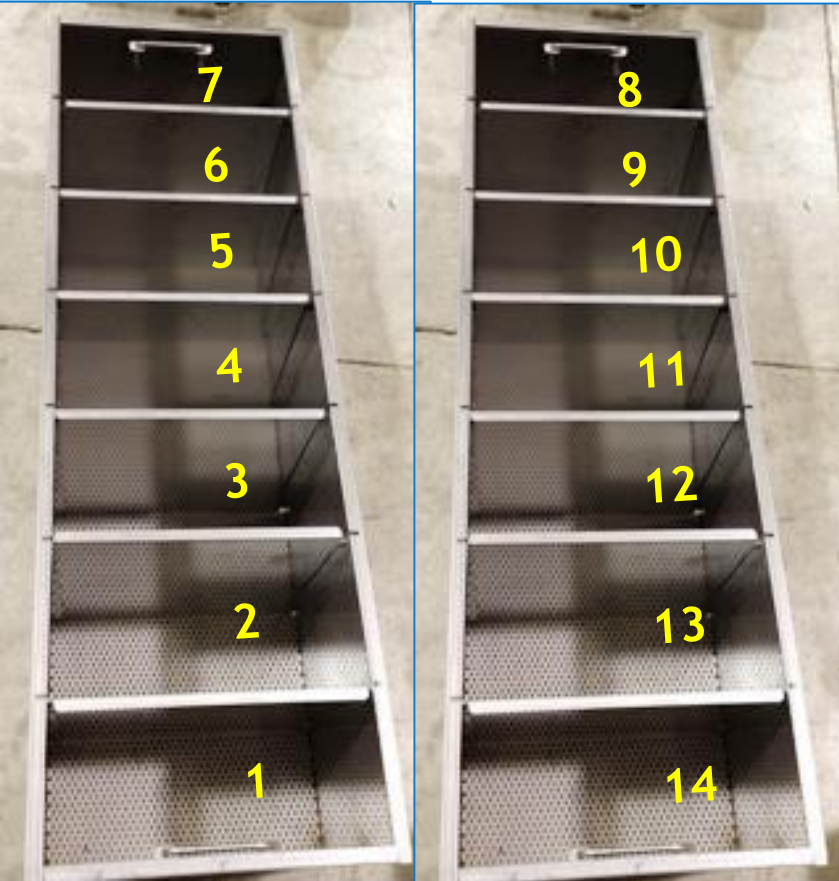
Standard
7 Total Compartments



+ 10 Mini
12 Total Compartments

BELOW: Two “Segregated” Baskets

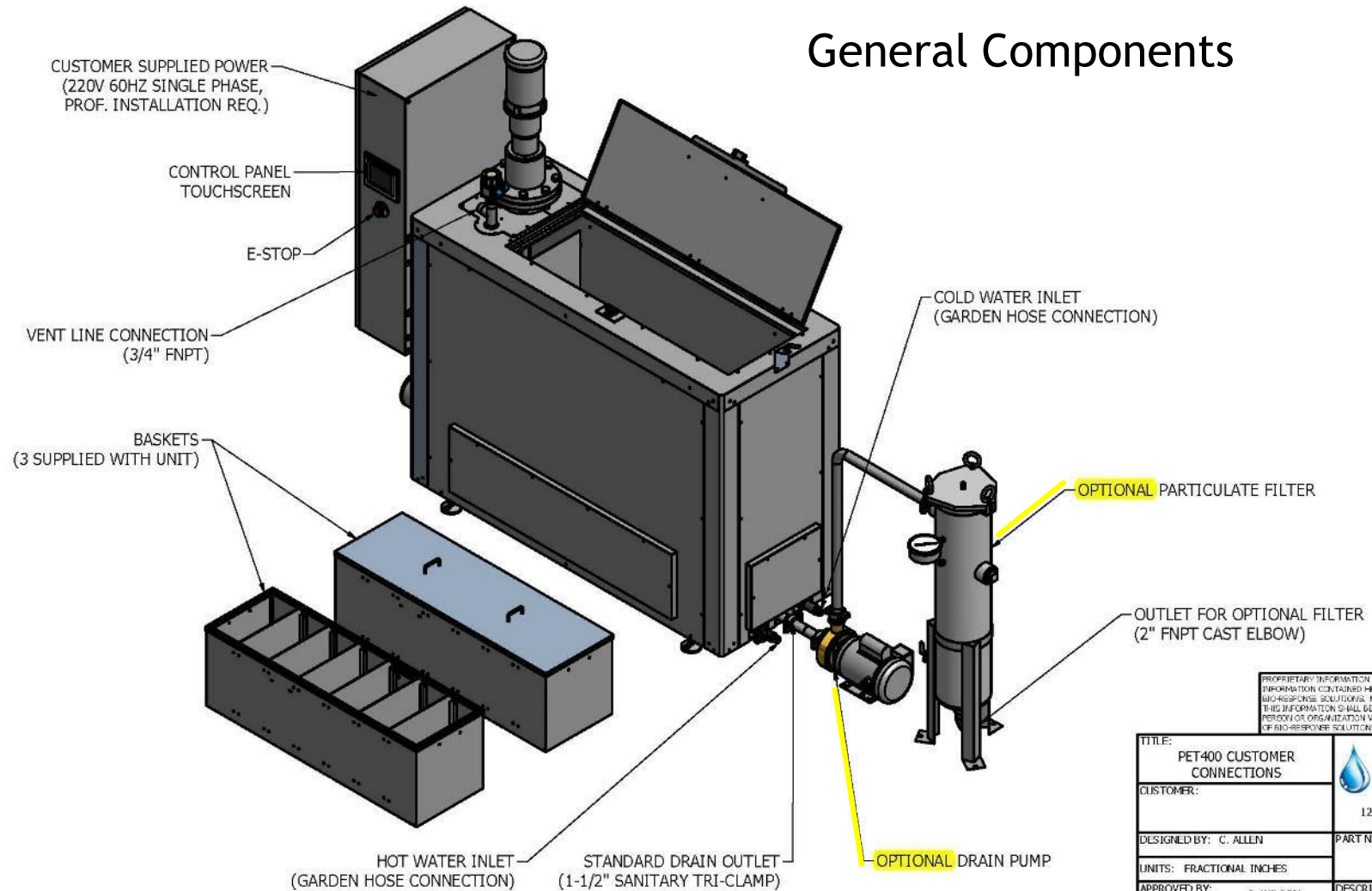
- Each has up to to 7 individual pet compartments in each segregated basket (14 total per full cycle)
- All four sides of each compartment (or cradle) are solid stainless steel. The top and bottom of the compartments are perforated to allow water to gently flow through the space.




ABOVE: One “Communal” Basket (placed on top of a bottom basket with the dividers removed)

- The open basket does not have divider tracks, and does not have a bottom floor. It is meant to be placed on top of one of the “segregated” baskets for full communal cycles (up to 400 lb), or extremely large pets (>190lb)

General Components



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TITLE: PET400 CUSTOMER CONNECTIONS		 BIO-RESPONSE SOLUTIONS
CUSTOMER:		
DESIGNED BY: C. ALLEN		1298 E. US Hwy. 136, Suite A Pittsboro, IN 46167
UNITS: FRACTIONAL INCHES		
APPROVED BY: S. WILSON		PART NUMBER:
SCALE: SHT: 1:1		
		DESCRIPTION: PET400 ALKALINE HYDROLYSIS UNIT

1298 E. US Hwy. 136, Suite A
Pittsboro, IN 46167

A Few Example Installations:





Pet Cemetery, California





Veterinary
Hospice, In-
Home
Euthanasia,
and Pet Loss
Services,
Colorado





Pet Loss Facility, Florida



Animal Clinic, Grand Junction, Colorado





A system in
operation

Pets are added to the system, each pet in its own separated compartment. Below a 4.5 lb (2 kg) Chihuahua and a 10 lb (4.5 kg) mini-poodle, and at right, a 121 lb (55 kg) Rottweiler.



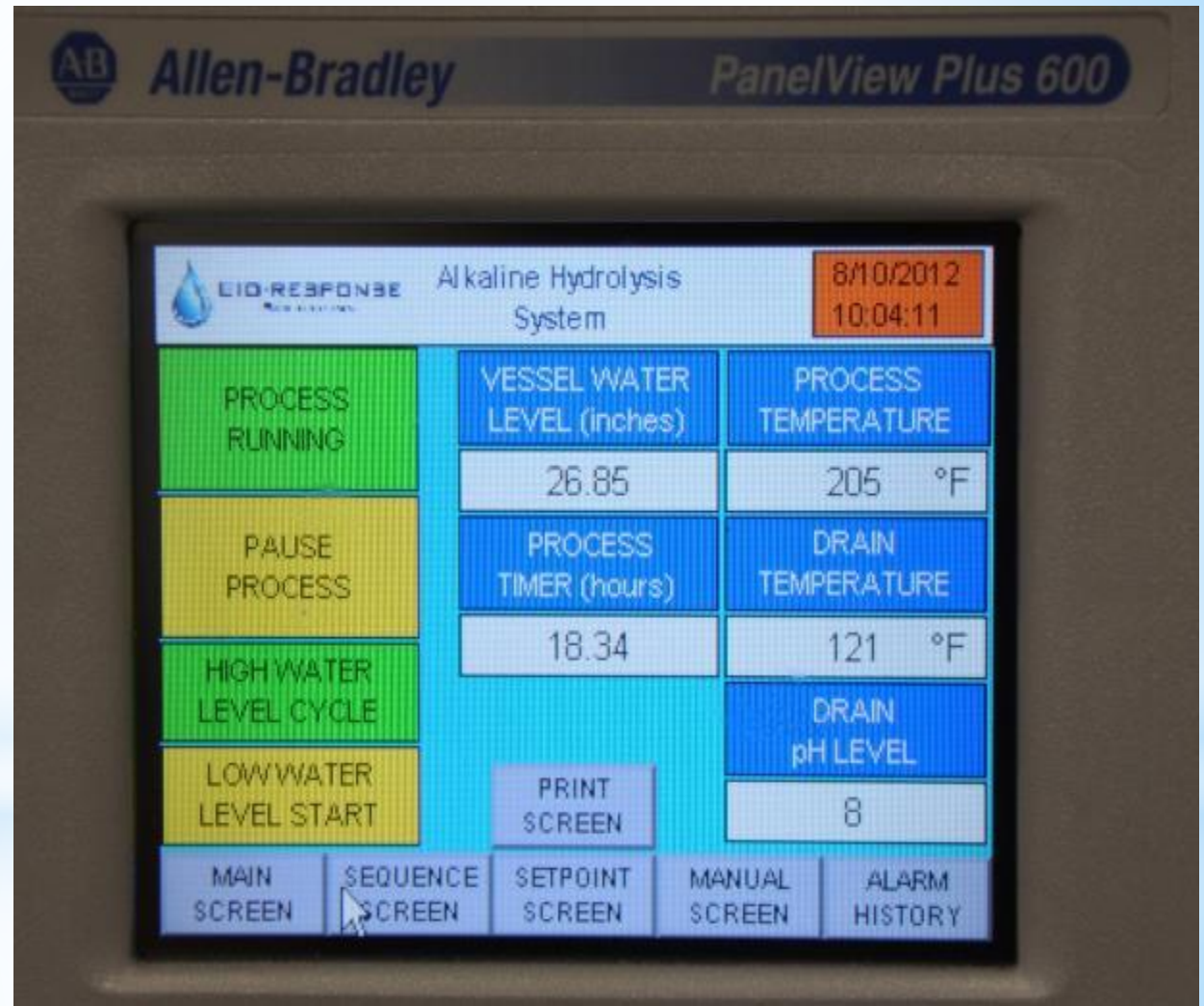
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Alkali is weighed (scale shown below) then added to the machine (right). Operators use standard protection gear! Safety first!



Cycle Level
(low or high)
is selected
then the
process is
started.

The rest is
automatic!





20 hours later.....

After completion, the lid is removed to expose the bones. The operator has a choice of using the built-in hose to spray the lid before removal.



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BEFORE



AFTER



BEFORE



AFTER



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Note how delicately the Chihuahua bones were handled (below) and how completely the Rottweiler bones were processed (right)



Bones are removed with a simple scoop and helper as shown left and below then put onto drying trays to prepare them for processing.



The bones emerge from the process wet and very dark!

After a 20 hour water process, the bones must be dried before processing. The bones will lighten in color as they dry. Here are the bone remains of a cat:



Bone remains can be air dried in 24-36 hours unassisted, dried with the assistance of a dehumidifier or heater in 15-24 hours, or rapidly dried in a convection oven. A convection oven can dry the bones in as little as one hour at 200°F, or in 15-20 minutes at 250-325°F (if closely monitored).

As the moisture leaves the bones, the color lightens.



Wet



Drying



Dry



Once the bones are dried they are processed. Typically the processed ash is finer than that from flame cremation.

The ash has a nice natural appearance, and families are thankful to have 20% more remains back from their beloved companions.



The water at the end of the process (“effluent”) is sterile! Medicines, euthanasia drugs, and chemotherapy agents are destroyed.

Most of our PET-400 systems discharge directly to the sewer / wastewater treatment plant. It is very easy to get discharge approval. Since this process does not produce any harmful emissions, this is the only regulatory permit we have to obtain.

The process water is safe to handle, safe for the sewer system (beneficial nutrients), or is an excellent fertilizer for grass, crops, or a pet cemetery. The fertilizer from this process has been land-applied since 2001!



*Additional Photos

Animal Clinic, Greenville, Illinois



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TOP ROW (L to R): Pet crematory installation ♦ 190 lb dog in a single basket ♦ Placing lid on top

Pet Loss Center, California



BELOW (L to R): Rack for bone drying ♦ room built out of the machine's shipping crate for bone drying; (talk about green!!!)
♦ dehumidifier and rack inside the room ♦ standard bathroom fan to keep the air moving during the drying process.



A small cycle (135lb) of frozen cats from our local animal shelter. The bone remains are respectfully scattered in our gardens at the end of the process. Frozen animals do not affect the process, however they may affect the placement into the compartments.

Running a cycle at our facility in Danville, Indiana

1. Lifting the basket into the machine



2. First (bottom) basket: two individual cats, and several communal cats



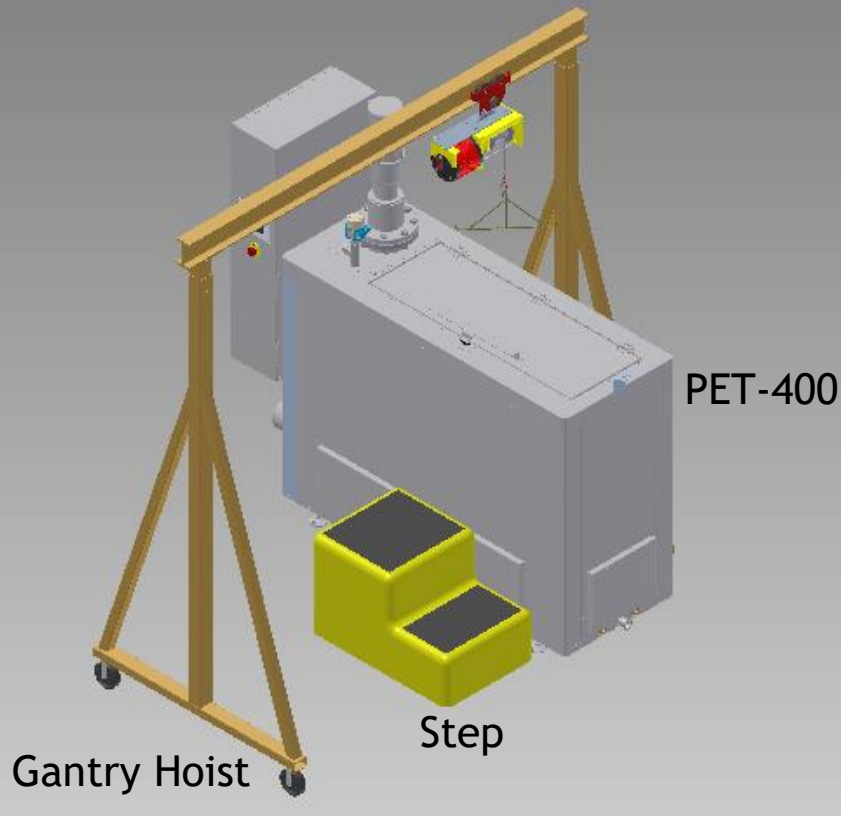
3. Second (top) basket: one individual cat and several communal



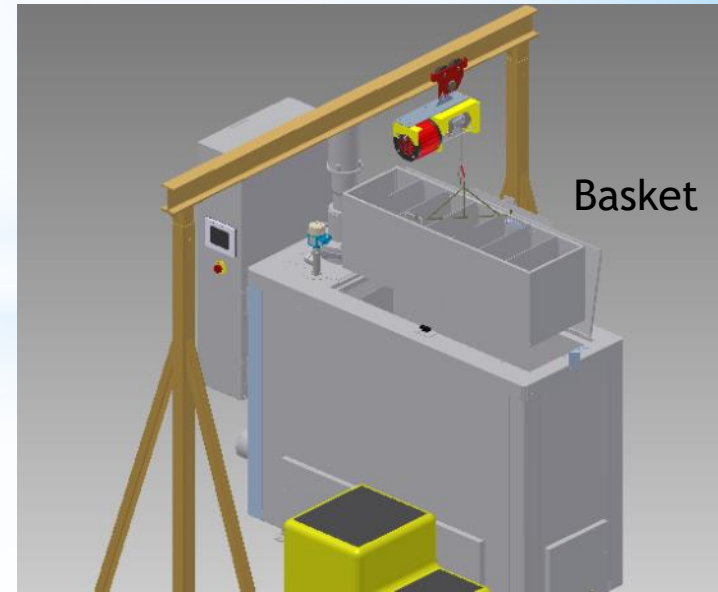
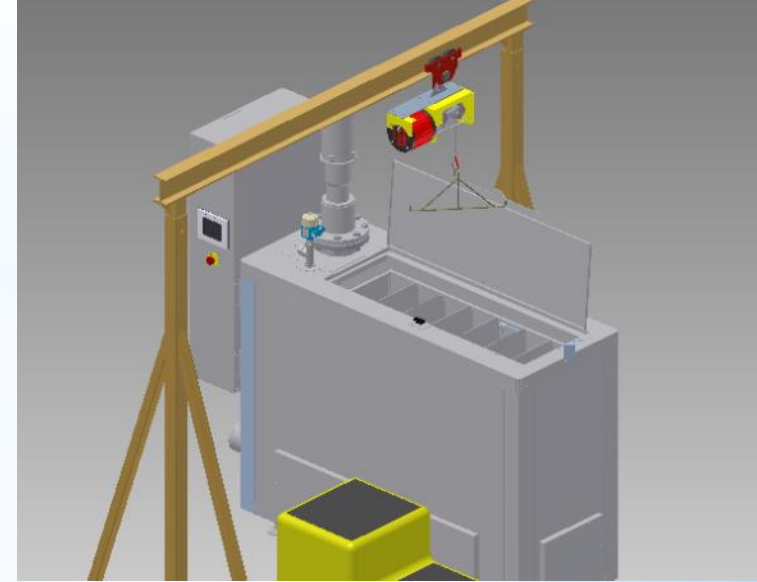
4. Placing the lid on the top; ready to run the cycle



*Some Hoist Options

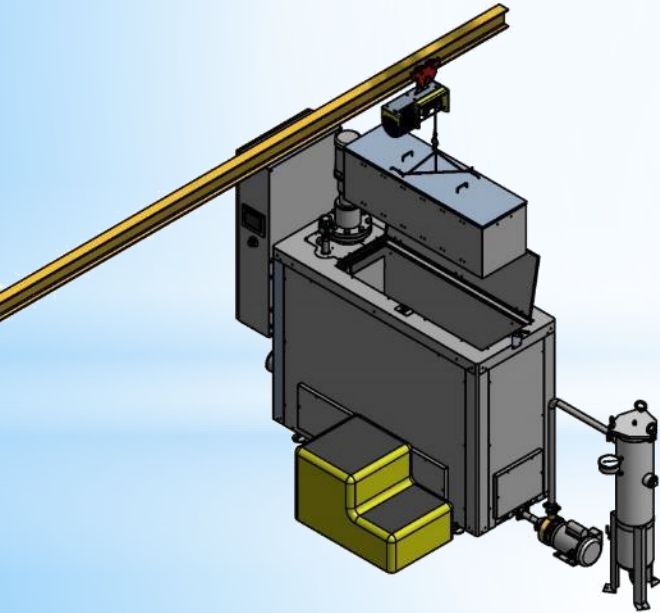


Some operators prefer to install a hoist to assist with lifting the baskets in and out of the machine (**highly recommended**). There are numerous inexpensive options for achieving this. We can recommend the best option for your facility; electric hoists are very inexpensive!

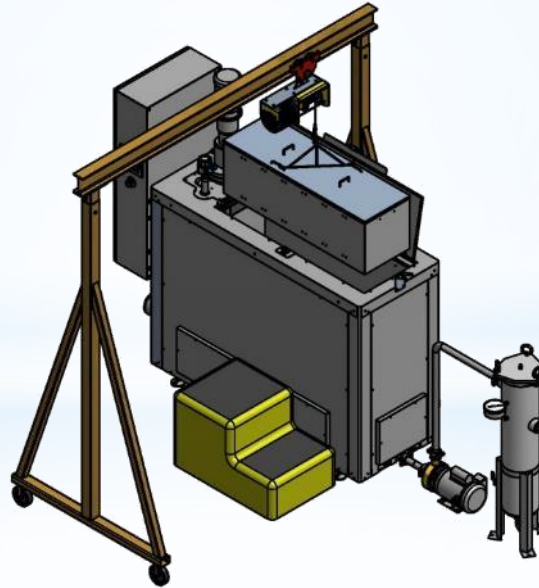


A Few Example Hoist Configurations:

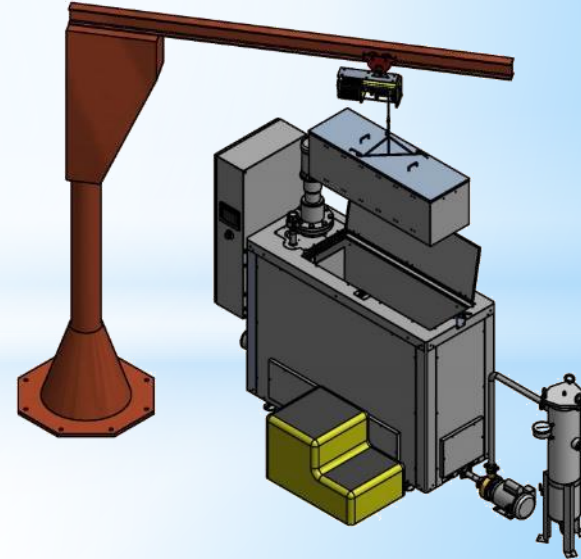
Installed I-Beam
Winch Hoist



Gantry Crane
Winch Hoist



Jib Crane (or similar)
Winch Hoist



Example installed I-Beam with electric hoist:



Example Gantry with *electric* hoist:

(PET-400 machine not shown)



*Bone Drying & Processing

The bone remains will be wet after the 20 hour water process. The bone remains must be dried before processing. There are several ways to accomplish this however the most common solutions are:

1. Bone drying closet - A room with a bathroom fan and a dehumidifier. Each set of bone remains is placed on its own tray (with ID tag) on a tray rack. Drying will take 15-24 hours depending on set-up. A heat lamp can further accelerate this process.
2. Convection oven - A convection oven can dry the bone remains quickly for fast remains returns. Depending on oven temperature, this should take 20 to 40 minutes. A standard non-convection oven cannot be used. A microwave cannot be used. Certain dehydrator devices can be used, but are not as effective as a convection oven. Please ask us for assistance.

*Bone Drying & Processing

Just like flame-based cremation, the bone remains must be processed into an ash for return to the pet owners. Bone processors manufactured by numerous companies. This type of equipment ranges from \$1,800-8,000.

If you would like to search for this type of equipment online, it would be found under the names: cremulator, bone processor, cremated remains processor, cremains processor, bone pulverizer, etc.

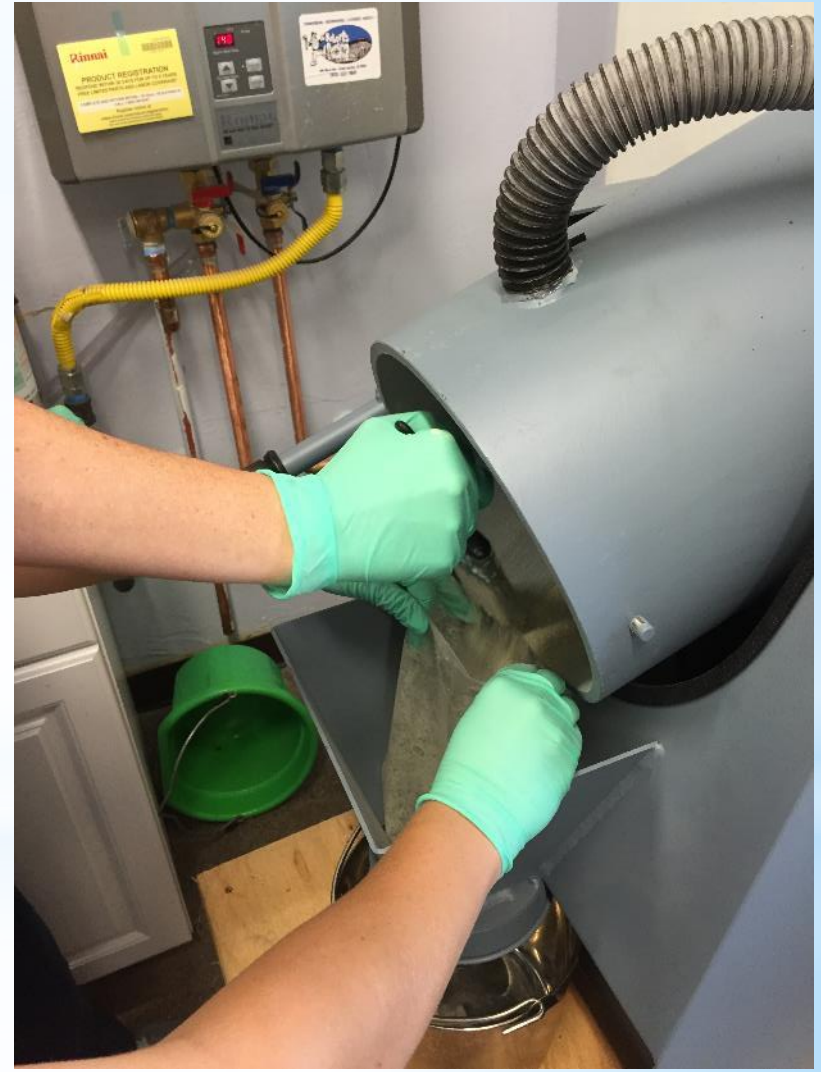
Some companies that sell the equipment are: Thermtec, Shiva Shade, American Crematory Equipment, US Cremation Equipment, B&L, Matthews, Facultative Technologies, etc.

We are happy to share our customers' feedback with you.

Thermtec BB-1 Cremated Remains Processor



- Very robust, our customers recommend this unit
- About \$3,000.00 for base unit
- Includes port on back for shop-vac hookup (we rec. the Rigid wet vac)
- Elevating table and vacuum accessories \$506
- See Thermtec's brochure





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