

# OLYMPIC REGION CLEAN AIR AGENCY

2940 Limited Lane NW - Olympia, Washington 98502 - 360-539-7610 – Fax 360-491-6308

## FORM 1- NOTICE OF CONSTRUCTION

TO CONSTRUCT - INSTALL - ESTABLISH OR MODIFY AN AIR CONTAMINANT SOURCE

**Form 1 Instructions:**

1. Please complete all the fields below. **This NOC application is considered incomplete until signed.**
2. If the application contains any confidential business information, please complete a Request of Confidentiality of Records ([www.orcaa.org/forms](http://www.orcaa.org/forms)).
3. Duty to Correction Application: An applicant has the duty to supplement or correct an application. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application must, upon becoming aware of such failure or incorrect submittal, promptly submit supplementary factors or corrected information.

Business Name: <span style="font-size: 1.2em; font-family: cursive;">Mills Crematory</span>	<b>For ORCAA use only</b> File No: 544 County No: 67 Source No: 922 Application No: 24NOC1628
Mailing Address: <span style="font-size: 1.2em; font-family: cursive;">5725 Littlerock Rd SW Tumwater WA 98512</span>	Date Received: <span style="font-size: 1.2em; font-family: cursive;">Received JAN 12 2024</span>
Physical Address of Project or New Source: <span style="font-size: 1.2em; font-family: cursive;">5725 Littlerock Rd SW Tumwater WA 98512</span>	ORCAA
Billing Address: <span style="font-size: 1.2em; font-family: cursive;">5725 Littlerock Rd SW Tumwater WA 98512</span>	
Project or Equipment to be installed/established: <span style="font-size: 1.2em; font-family: cursive;">5725 Littlerock Rd SW Tumwater WA 98512</span>	
Anticipated startup date: <u>1/30/2024</u> Is facility currently registered with ORCAA? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
This project must meet the requirements of the State Environmental Policy Act (SEPA) before ORCAA can issue final approval. Indicate the SEPA compliance option: <input type="checkbox"/> SEPA was satisfied by _____ (government agency) on ___/___/___ (date) - Include a copy of the SEPA determination <input type="checkbox"/> SEPA threshold determination by _____ (government agency) is pending - Include a copy of the environmental checklist <input type="checkbox"/> ORCAA is the only government agency requiring a permit - Include ORCAA Environmental Checklist <input type="checkbox"/> This project is exempt from SEPA per _____ (WAC citation).	
Name of Owner of Business: <span style="font-size: 1.2em; font-family: cursive;">Service Corporation International</span>	<b>Agency Use Only</b>
Title: Email: Phone: <span style="font-size: 1.2em; font-family: cursive;">713-522-5141</span>	
Authorized Representative for Application (if different than owner): <span style="font-size: 1.2em; font-family: cursive;">Robert Champion</span>	
Title: <span style="font-size: 1.2em; font-family: cursive;">Crematory Operator</span>	
Email: <span style="font-size: 1.2em; font-family: cursive;">Robert.Champion@sci-us.com</span> Phone: <span style="font-size: 1.2em; font-family: cursive;">360-704-9029</span>	
I hereby certify that the information contained in this application is, to the best of my knowledge, complete and correct.	
Signature of Owner or Authorized Representative: (sign in Blue Ink)	
	Date: <span style="font-size: 1.2em; font-family: cursive;">1/11/2024</span>
<b>IMPORTANT:</b> Do not send via email or other electronic means. ORCAA must receive Original, hardcopy, signed application and payment prior to processing application.	

**OLYMPIC REGION CLEAN AIR AGENCY**

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**FORM 1B  
Change of Source Information**

**Source Information**

<b>Business Name</b> Mills Crematory	<b>FOR ORCAA USE</b>
<b>"Parent" Company Name (if applicable)</b> Service Corporation International	<b>FILE #</b>
<b>Previous Business Name (if applicable)</b> Mills & Mills Crematory	<b>CTY #</b>
<b>Person completing this form</b> Amanda Curry	<b>SRC #</b>
	<b>Date Received</b> Received JAN 12 2024  ORCAA

**Address Information**

<b>Physical Site Address (Street address, city, state, zip)</b> 5725 Little Rock Rd SW, Tumwater WA 98512
Also use this address for <input checked="" type="checkbox"/> Mailing <input checked="" type="checkbox"/> Site Mailing <input checked="" type="checkbox"/> Billing
<b>Mailing Address (Street address, city, state, zip)</b> 5725 Little Rock Rd SW, Tumwater, WA 98512
Also use this address for <input type="checkbox"/> Billing
<b>Site Mailing Address (Street address, city, state, zip)</b>
<b>Billing Address (Street address, city, state, zip)</b>

The **physical site address** is the location of the air pollution source.

The **mailing address** is used if mail cannot be received at the physical site, or mail needs to be sent to the "parent" company.

The **site mailing address** is used to mail information directly to the physical site (like newsletters) rather than to the "parent" company. This is only needed if the site mailing address is different from the normal mailing address.

The **billing address** is used for all invoices, as needed.

**Please see reverse side for Contact Information.**

## OLYMPIC REGION CLEAN AIR AGENCY

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### FORM 1D- Contact Information

<b>Business Name</b> Mills Crematory	<b>FOR ORCAA USE</b>
	FILE #
<b>Physical Site Address (Street address, city, state, zip)</b> 5725 Litterock Rd SW Tumwater, WA 98512	CTY #
	SRC #
<b>Previous Business Name (if applicable)</b> Mills & Mills Crematory	<b>Date Received</b> Received JAN 12 2024
	ORCAA

#### Contact Information

<b>Inspection Contact</b>	
Name Mills & Mills/Robert Champion	Title Crematory Operator
Phone 360-357-7743	Email Robert.Champion@DignityMemorial.com
<b>Billing Contact</b>	
Name Amanda Curry	Title Office Manager
Phone 360-357-7743	Email Amanda.Curry@DignityMemorial.com
<b>Emission Inventory Contact</b>	
Name	Title
Phone	Email
<b>Complaint Contact</b>	
Name	Title
Phone	Email
<b>Permit Contact</b>	
Name	Title
Phone	Email

The **inspection contact** is the on-site person responsible for the everyday operation of the site and is available for inspections.

The **billing contact** is the person invoices are sent.

The **emission inventory contact** is the person requests for emissions information and material use information are sent.

The **complaint contact** is the person who receives and responds to complaints received on-site and who is contacted regarding complaints ORCAA receives.

The **permit contact** is the person responsible for filling out permit applications and receiving approval from ORCAA.

FORM 36  
CREMATORY UNIT

ORCAA

I. General Information:

- A. Facility/Applicant Name Mills Crematory Date: 1/11/2024
- B. Location 5725 LITTLE ROCK RD SW, TUMWATER WA 98512
- C. Phone 360-357-7743 Email: Robert.Champion@sci-us.com

II. Manufacturer Information:

- A. Manufacturer Name American Crematory Equipment Co.
- B. Model and Serial Number A-350 Instant Access 101923
- C. Date of Manufacture 2023
- D. Has the cremation unit been reconstructed or refurbished? No
- E. If "Yes," provide contractor name and date for last occurrence \_\_\_\_\_
- F. Name of contractor and itemized list of components replaced or repaired \_\_\_\_\_

III. Operating Procedures:

- A. Maximum Charging Rate (lbs) 1,000 lbs
- B. Charging Method(s) (describe) Manual with a loading table.
- C. Operating Sequence (describe) \_\_\_\_\_
- D. Target Operating Temperatures
- a. Primary Chamber 1600 BTU 600,000/hour
- E. Secondary Chamber 1650 BTU 1.2 million/hour

**IV. Design Parameters:**

	Primary Chamber	Secondary Chamber
A. Volume (ft <sup>3</sup> )		
B. Configuration & Dimensions		
C. Grate Area (ft <sup>2</sup> )		
D. Arch Height (ft)		
E. Burner(s) Manufacturer		
1. Model		
2. Btu Rating		
3. Fuels Fired		
F. Air Flow (CFM)		
1. Burner		
2. Under-grate		
3. Other		
G. Gas velocity (Avg FPS)		
H. Avg Operating Temp (°F)		
I. Max Operating Temp (°F)		
J. Retention Times (Sec)		

**V. Exhaust Parameters:**

A. Stack exhaust parameters

	Actual	Design
1. ACFM @ operating temperature	_____	_____
2. Dry SCFM	_____	_____
3. CO <sub>2</sub> (vol. %, dry)	_____	_____
4. O <sub>2</sub> (vol. %, dry)	_____	_____
5. Particulate (grains/DSCF @ 12% CO <sub>2</sub> )	_____	_____
7. Stack Height (ft from grade): _____ Stack Diameter (inches): _____		

B. System control capabilities, such as burner modulation, interlock features, etc. (describe):

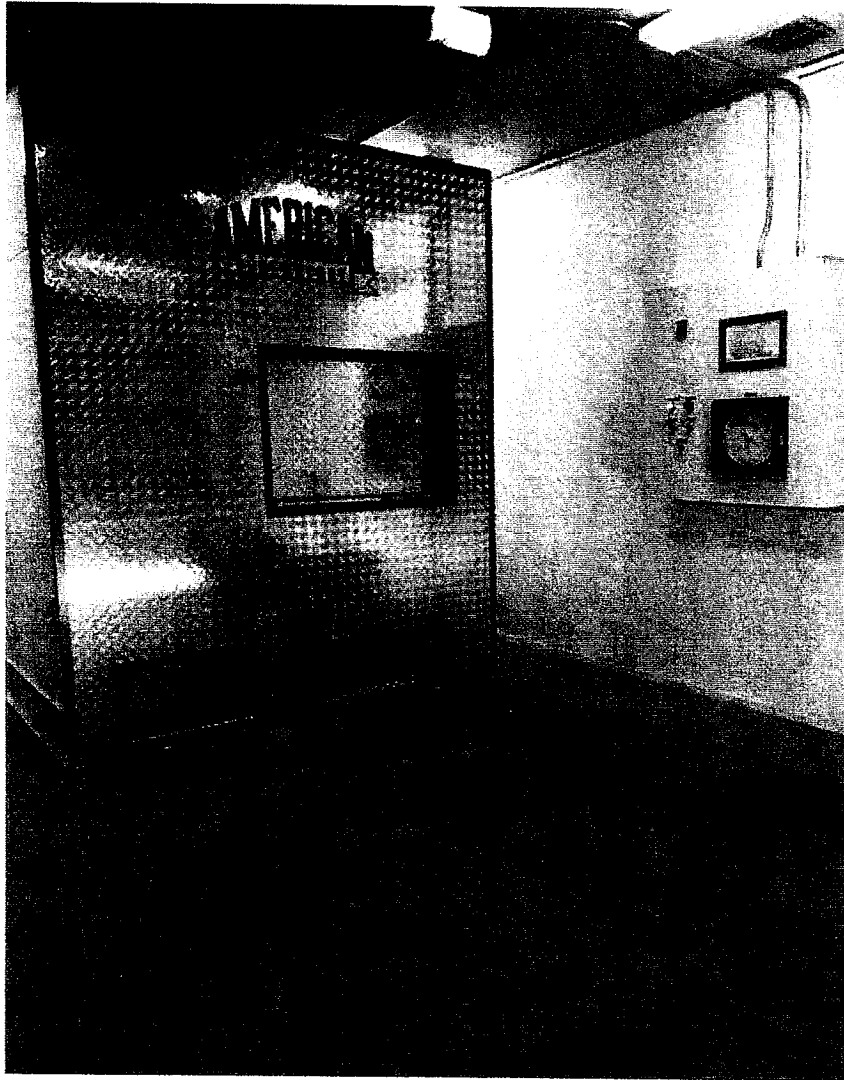
C. Description and Nature of Guarantee:

D. Instrumentation and Controls:

- a. Flame failure controls \_\_\_\_\_
- b. Thermocouple placement \_\_\_\_\_
- c. O<sub>2</sub> and CO/CO<sub>2</sub> sensor placement \_\_\_\_\_
- d. Temperature and oxygen recorder \_\_\_\_\_
- e. Automatic controls \_\_\_\_\_
- f. Feed rate controls \_\_\_\_\_
- g. Stack smoke alarm \_\_\_\_\_

E. To be included with application:

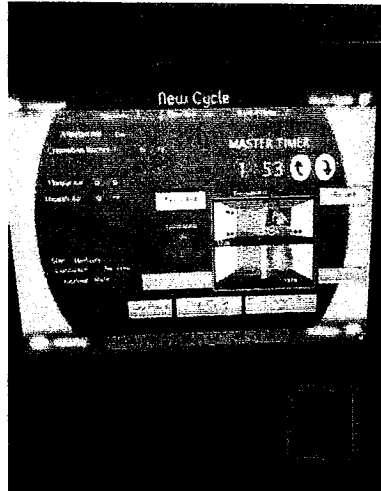
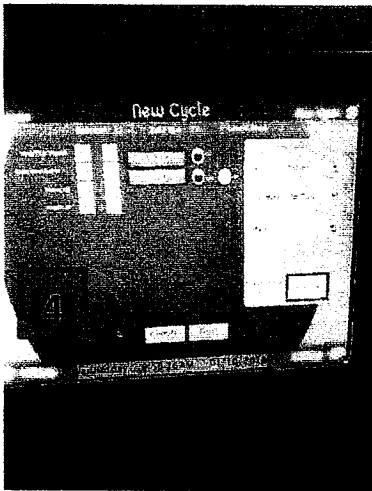
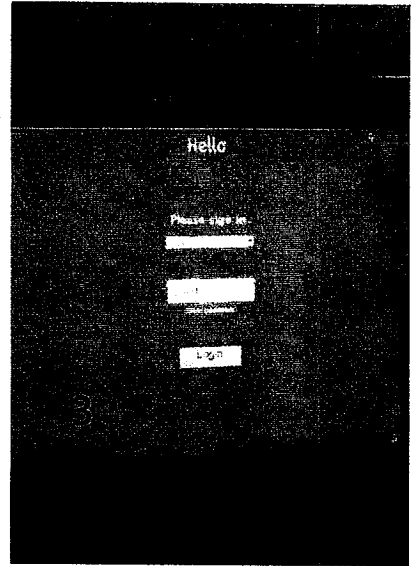
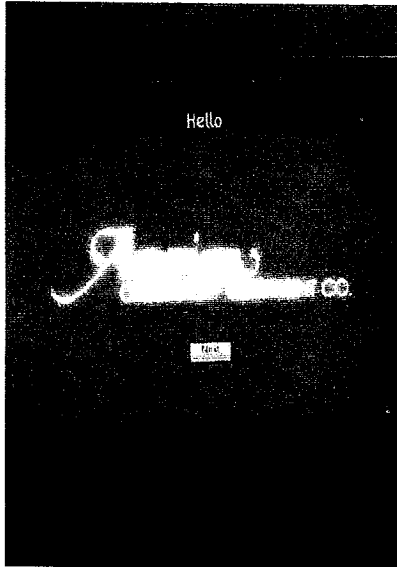
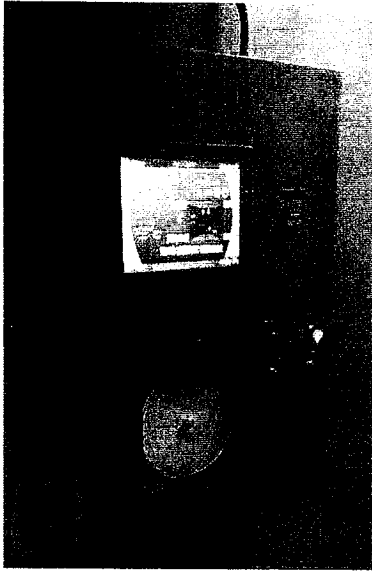
- a. Facility plot plan
- b. Equipment layout
- c. Equipment details
- d. Vendor specification sheets



AMERICAN  
CREMATORY  
A-350  
User Manual

1. Is the Control Panel with the HMI or TouchScreen. 2. Is the Default Home Screen. 3. Is the Log In Screen. 4. Is the Case Builder Screen. 5. Is the Run Cycle Screen

These screens are your primary operating screens, case builder and log in screens

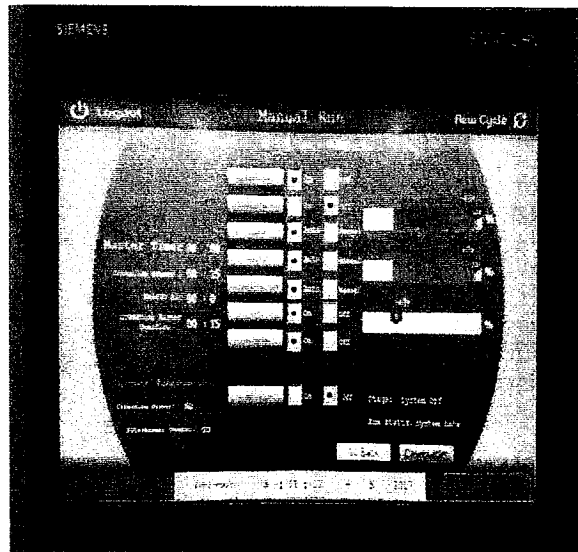
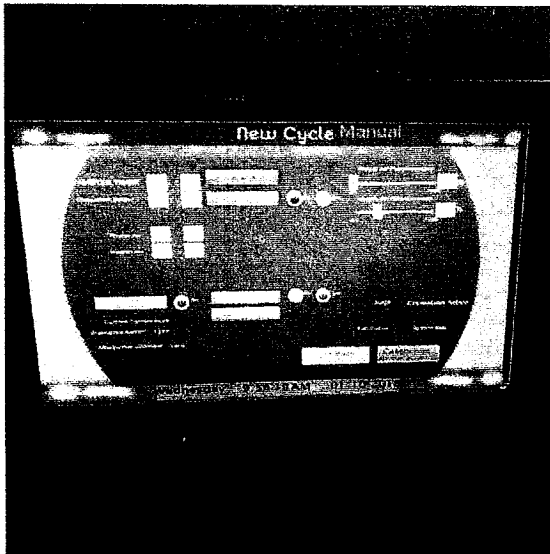




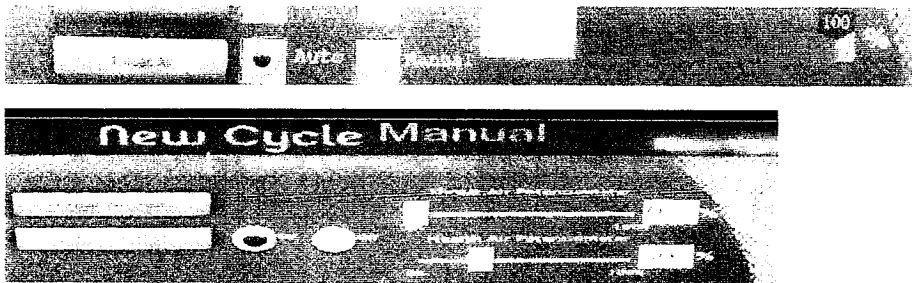
The manual run screen will allow you to manually adjust the parameters of the machine. The sliver cremation burner bar will turn the cremation burner on or off.

The Cremation Burner Low Fire silver bar will manually put the cremation burner into low fire and hold it in this state until the sliver bar is activated again by pressing on the silver bar that says cremation burner low fire hold.

Throat air, hearth air, cremation burner overfire, opacity, chart recorder are described in detail below. Your unit may be equipped with one of two HMI Touchscreens the American (shown here on the left) or the Siemens (shown here on the right)



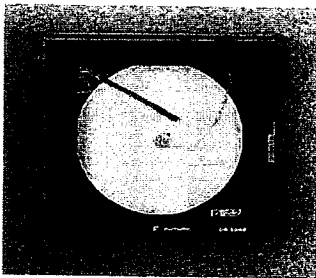
Throat Air – Controls the amount of air that is going into the stack/afterburner. On large cases, this will need to be opened as much as possible to keep the smoke nonexistent while at the same time maintaining afterburner temp. On cold mornings, this may have to be manually adjusted to keep the afterburner temp high enough. This should be brought down if you start to see flames coming out of the stacks.



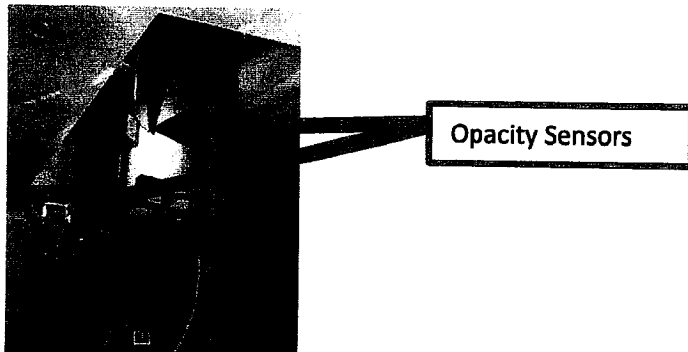
**Cremation Burner** – This is the main burner in the cremation chamber. This has two settings, it has a low fire and a normal fire. On the screen, you can differentiate on which it is in by the size of the flame. The smaller flame is low fire and the larger flame is normal fire.

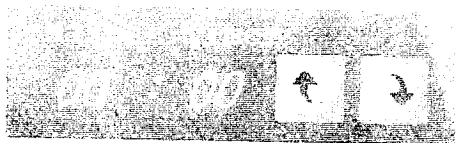
**Afterburner Fire** – This is the flame in the afterburner, this flame should NEVER be turned off as you will get black smoke. This also has two burn settings, which are the same as the cremation chamber.

The Chart Recorder Paper Dial needs to be changed every day or once a week depending on how you have requested the configuration. To do so, you pull the metal tab to open the door. Then you Unscrew the center nut that holds the disk in place and slide the chart paper out from under the pen. When replacing the chart paper lift the ink pen arm slide the paper onto the center shaft and rotate to proper time and day (there is an indentation line located top right side this is the time and day indicator line) and tighten the silver nut.



The Opacity Sensor is in the stack and alerts when there is smoke. It makes a buzzing sound and the machine will auto correct by adjusting the air and shutting the cremation burner off. Clean the Light Bulb and the Receiver Lens Monthly. Upon set up ACE will calibrate the density. If the bulb is accidentally turned higher or lower. Use the tinted plexiglass to re calibrate.

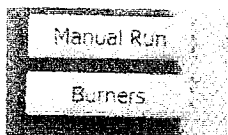




The system status will go red if there is an error. Causes of errors are the door isn't closed all of the way, there is smoke in the stack, one of the flames went out.



The manual run button will take you into the manual run screen where you can manually adjust parameters of the cremation process.

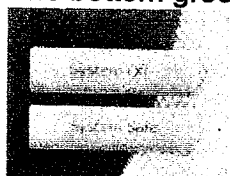


The burners button will take you into the burners screen.  
The run cycle button will start the machine/cremation process.  
The go back button will take you back to the case builder screen.



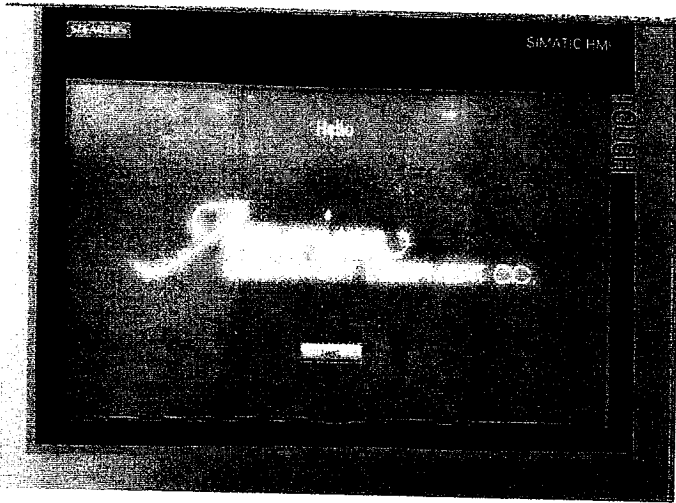
The top green box on the lower right side says the system status: system off, fresh air purge, pre heat, cremation active, cool down, error.

The bottom green box will show if there is a problem with the system: smoke in stack.

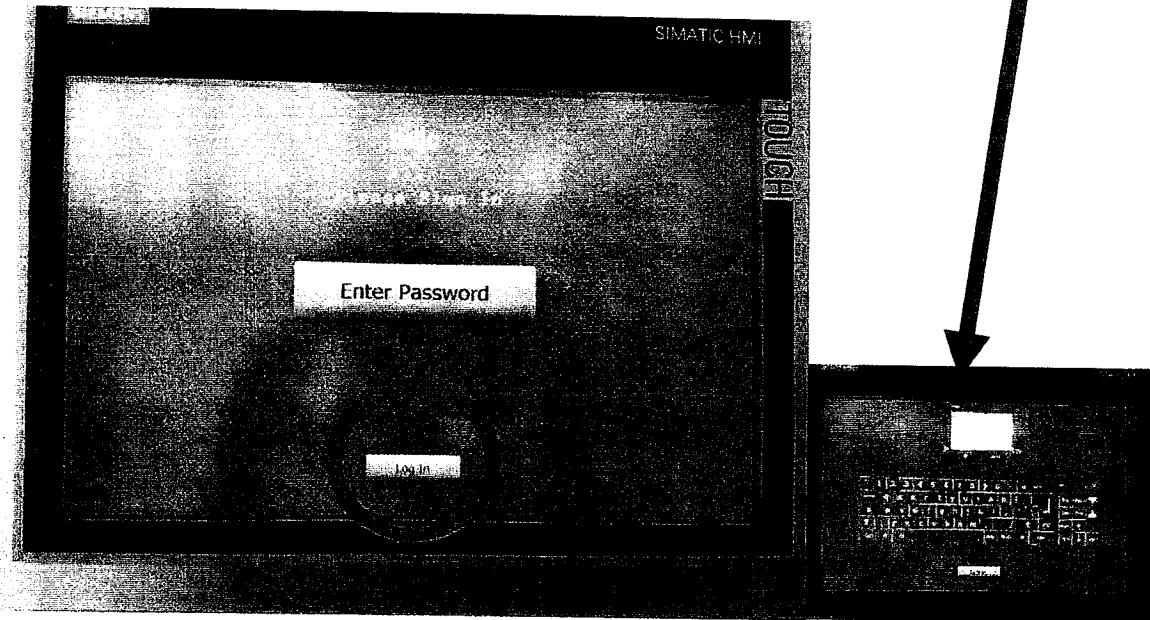


**Starting a Cremation:**

- 1: Make sure you have all of the paperwork and the correct body on the lift
- 2: Get the weight of the person and write it down on your paperwork
- 3: After checking the name and for pacemaker, put the metal tag on the outside of the cremation container.
- 4: Push Next.

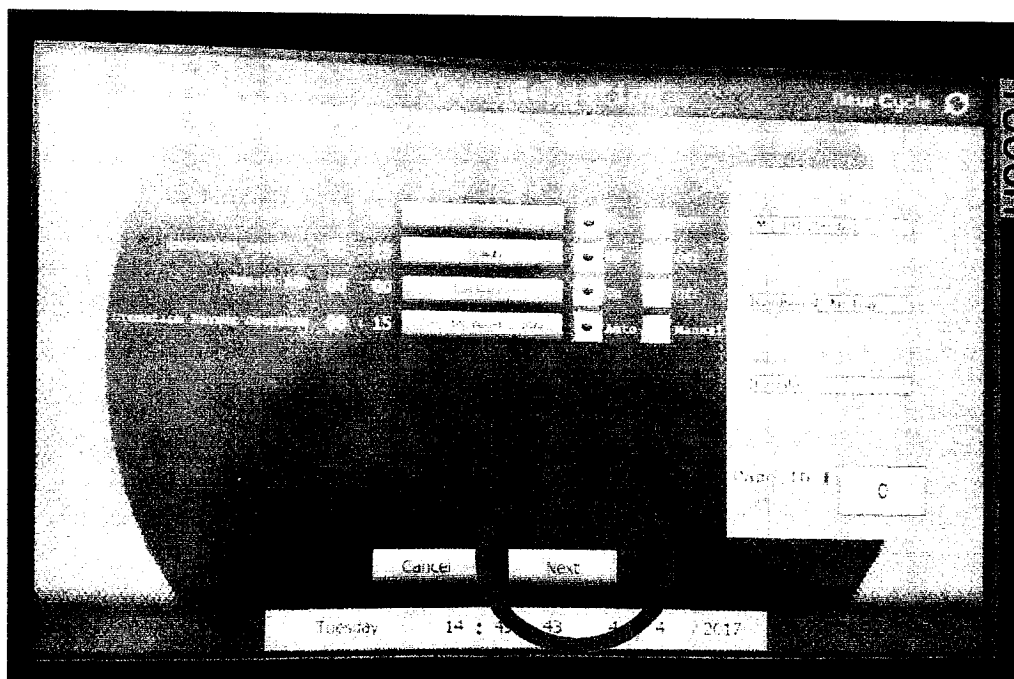


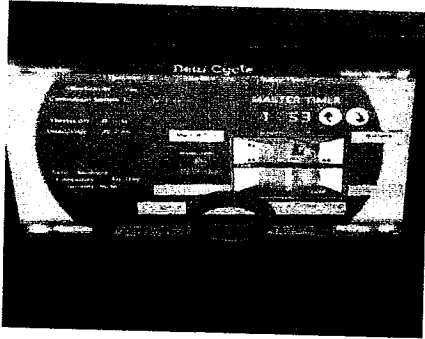
- 5: Press Log In. You will be taken to a user name and password screen, input the correct username and password. Username: user 1 & Password: 1001. The screen will look like the one to the right if you have the Siemens HMI.



M ( 101 200 lbs )  
 Cardboard/ Air Tray  
 Female  
 Case ID # 0

7: Press next





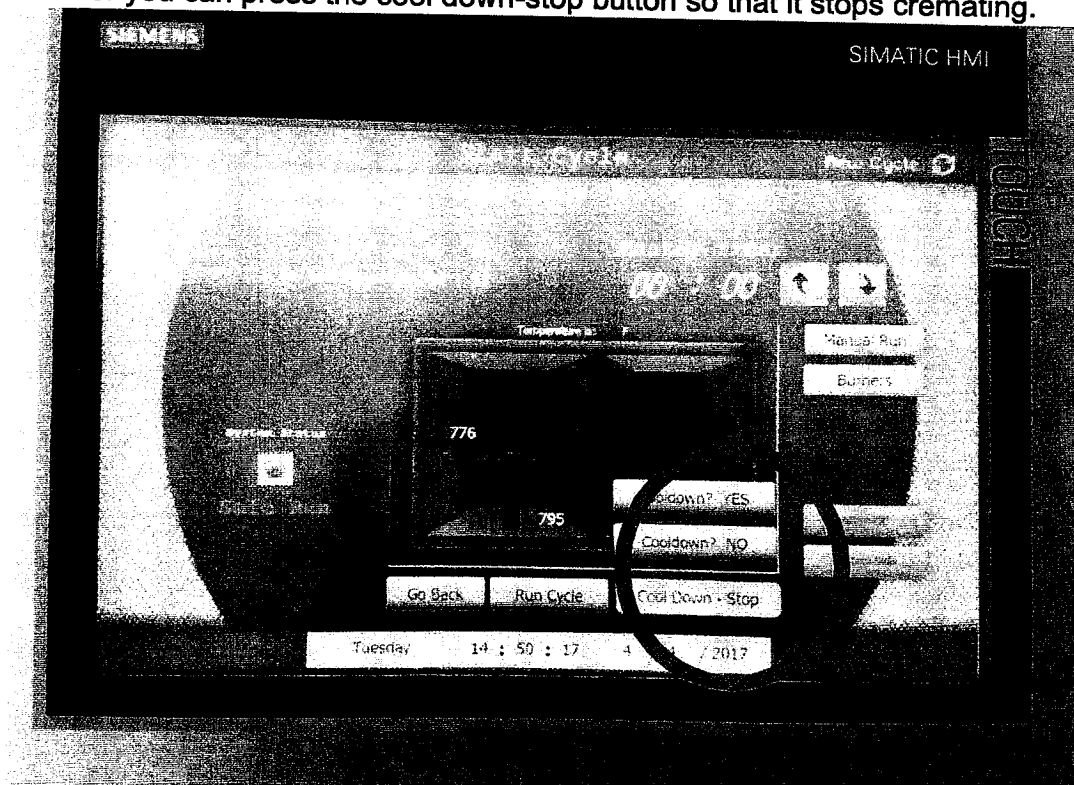
10: Once the case has been loaded into the cremation chamber, be sure to release the safety stops and close the door. Leaving it open for too long will cause the afterburner temp to drop. Note: For HOT LOAD Put the throat air into manual mode and open it to 100%. This will help control any smoke.

11: Record the time that the case was loaded into the machine on the chart if you wish.

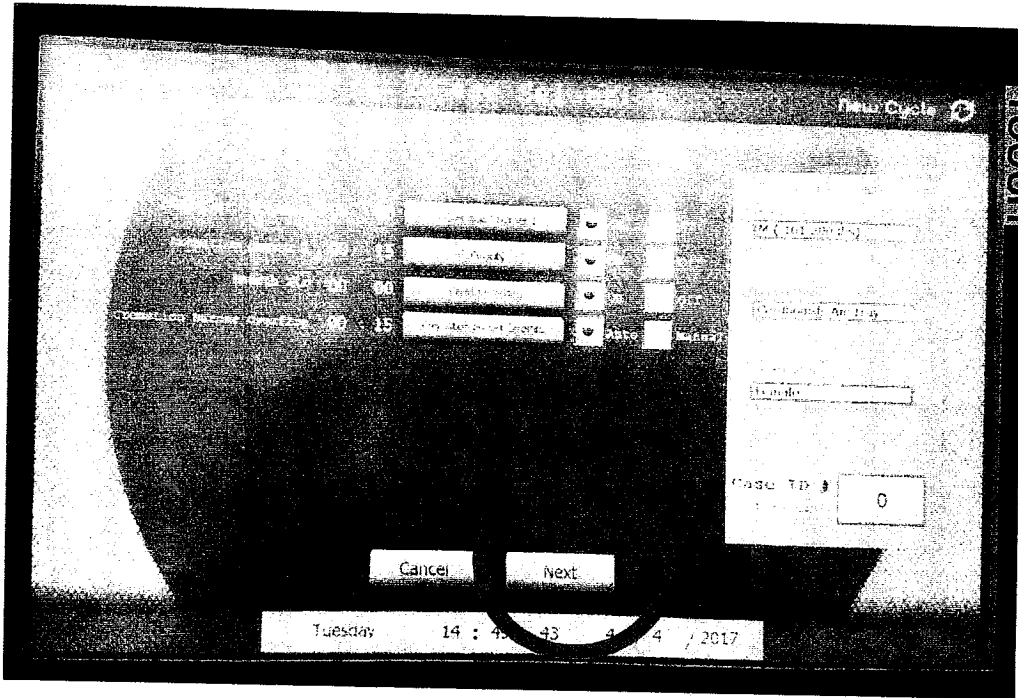
12: For the first 5 or so minutes, be sure to watch the temperature.

13: When the cremation has about 20-40 minutes left on the master timer, they should be checked. This will allow time to be added or the cremation cycle to be stopped if the case is done

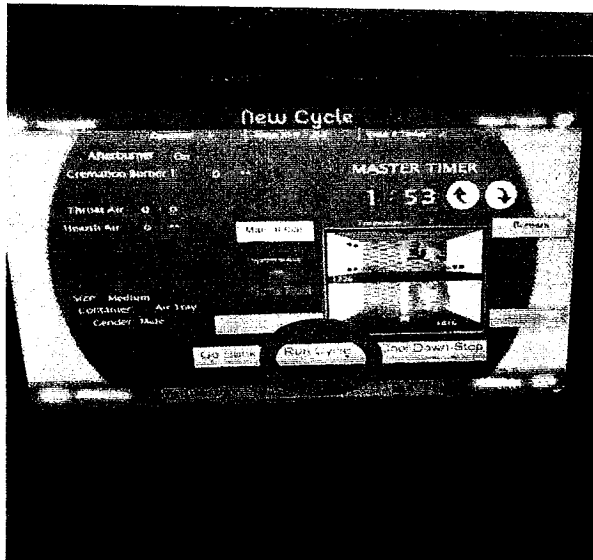
14: Once the cremation has finished, the machine will either go into automatic cool down or you can press the cool down-stop button so that it stops cremating.



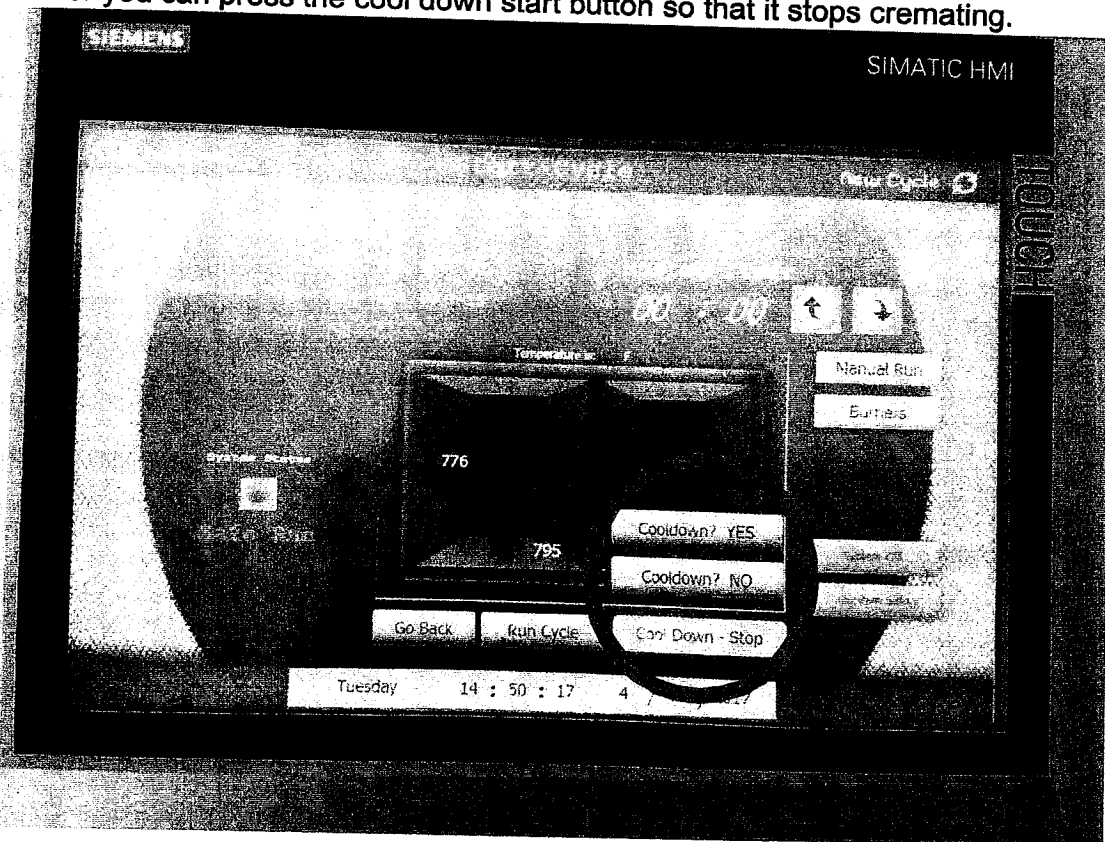
4: Press next



5: Press Run Cycle and then the machine will start. It will run in fresh air purge for a few minutes and then switch over to preheat. At this time, the afterburner will start to come up to temp.



11: Once the cremation has finished, the machine will either go into automatic cool down or you can press the cool down start button so that it stops cremating.



12: Once the cremation chamber comes down to about 900 degrees, then cleanout is the easiest. Before opening the door to start the cleanout, be sure to turn off the cool down process. This will create less turbulence.

13: Using the cleanout tool, cleanout the larger items and let them fall into the ash hopper.

14: Next use the brush tool to sweep up the finer residue and completely clean out the chamber. Sweep the ID tag into the ash bin last so that it is located on the top.

15: Once the cremation chamber is completely cleaned out, you can relocate the remains pan to the cooling area or processing area.

16: The cremation times will decrease on your second and third cases of the day.



## Pacemakers and Defibrillators

Pacemakers and defibrillators will explode during the cremation and may cause damage to the refractory. These devices should be removed prior to cremation. To prevent injury to the operator, do not open the loading door during the first 30 minutes of the cremation.

## Casket Types

**POLISHED WOOD CASKETS:** These types of containers should be treated with extra attention when cremating because of their highly flammable coating. These cases should be treated like an obese case, first case of the day on a cold unit and increase the cremation burner delay from 30 minutes to 50 minutes and increase the master timer and additional 30 minutes.

**PLAIN WOOD CASKETS:** These types of containers can be cremated in a warm chamber; however the operator will need to increase the cremation burner delay to 50 minutes.

**PARTICLE WOOD CASKETS:** These types of containers are commonly used throughout the cremation industry and can be cremated using the standard settings.

**CARDBOARD CONTAINERS:** These containers are the most commonly used cremation containers in the industry and can be cremated in any order. The operator can set the delay for 10 minutes to burn away the cardboard slowly so no white smoke will occur. If the unit is 300 degrees or higher and the container is loaded into the chamber it will combust on its own, after 10 minutes turn on the cremation burner (no delay necessary).

**METAL CONTAINERS:** These containers should be inserted as the last cremation of the day. Remove the lid prior to cremation. The metal

## Removal and Processing of Cremated Remains

After the cremation cycle is complete and the unit has cooled down (approx.30 minutes) the operator can now remove the remains. The blower can be left on or turned off. Open the loading door and use the metal clean out tool provided to remove the large pieces of the remains. After the bulk of the remains are transferred to the ash pan the operator may now use the stainless steel wire brush provided to remove the remaining residue.

Keep the ID tag with the remains at all times. It does not get processed with the remains, however it should be placed in with the remains after processing or it can be zip tied to the plastic bag in which the remains are inside of.

For Maximum residue removal it is recommended that the operator use a high heat vacuum.

After the cremated remains are transferred to the ash pan the remains can be carefully transferred to the processing station tray where they can be spread out for cooling and magnetizing. This needs to occur so no metal is transferred into the processing drum. If metal is processed with the cremated remains it can and will damage the processing drum.

Metal trash cans are recommended to discard the metal particles as plastic may melt.

Never process HOT remains as it causes premature bearing failure on the processing pot.

The average volume of cremated remains is 190 – 212 cubic inches. Processing the remains should be performed with a remains processor. American offers various types of processing equipment; you can contact us for pricing and information of all the equipment we offer at 1.800.396.2254

## Annual Maintenance

Your permit to operate will stipulate if you are required to have the manufacture perform an annual or semi-annual calibration. American Crematory will schedule and perform a comprehensive refractory inspection and calibration or tune-up as indicated by your permit requirements. Call American Crematory Equipment Company at 1.800.396.2254 to schedule at least once a year.

We feel that preventative maintenance is key to the longevity of your equipment. We take pride in manufacturing and maintaining your equipment

## Troubleshooting

### BLOWER

- If the blower will not start.
- Inspect the breaker located in the sub panel to make sure it has not tripped to the “off” position. If the breaker is tripped to the “off” position reset by moving the breaker to the “off” side of the breaker then move to the “on” side of the breaker, if you do not move to “off” first it will not reset properly.
- Reset the Blower Starter located inside the panel door, the starter consists of a coil and an overload the reset is located on the lower overload relay and is indicated by the word “reset”
- Check the blower fuses located on line F1 F2 F3
- If the above suggestions do not remedy the problem call American Crematory Service Department for technical advice 1.800.396.2254

### BURNERS

- If the burners do not light make sure the green “safe run” is illuminated. If not call American Crematory for technical advice.

### Replacing Thermocouples

- If the temperature control reads “OPEN” or “[LL]” this indicates a worn out thermocouple, replace the TC by removing it from the proper chamber, if it is HOT use protective gloves to handle. Unscrew the head of the TC and you will see two small wires (1) red and (1) yellow these wires DO NOT have voltage supplied to them so you do not have to shut off the power to replace. Loosen the set screws and remove the wires from the TC. Discard the old TC and install the wires on the new TC in the same manner as they were removed. Note: Red wire is – (negative) and the Yellow wire is + (positive). If the wires are installed in reverse the temperature control will display a negative temperature reading.

- To Order Replacement Parts and Supplies

Visit our website. [www.americancrematory.com](http://www.americancrematory.com)

*American*  
CREMATORY EQUIPMENT CO.

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"SERVICE IS EVERYTHING"

## **CREMATORY INSTALLATION INSTRUCTIONS**

The enclosed installation manual and pre-construction checklist are provided to you by American Crematory Equipment Co. to assist you in the installation of your cremation equipment. All state and local and national codes as well as American Crematory Equipment Company requirements must be adhered to for the safe installation and operation of your equipment.

In cases where the recommendations of American Crematory Equipment Co. are more stringent than the local, state or national codes the ACE Co. recommendations should be followed.

We strongly recommend that you review this information with the contractors involved with the installation (Crane, Gas, Roofing, Electrical, etc.)

If you should have any questions regarding this information or your cremation equipment please call us at 1-800-396-2254 or 1-562-926-2876

# American CREMATORY EQUIPMENT CO.

"SERVICE IS EVERYTHING"

## 1. ARRIVAL AND UNLOADING

Your new cremator will arrive at your facility at the pre-arranged time. ACE will call and confirm time, date and delivery schedule. It should be noted that the customer is responsible to coordinate the crane and rigging of equipment, however if the customer is unfamiliar with this facet of the process, ACE will be able to arrange crane and rigging on the customers behalf and/or be onsite for the install to insure a smooth installation. When hiring a crane and rigging company it is best to have the company(s) walk the job site before actual installation, this will give them the opportunity to survey and correctly assess the building and determine what equipment will be necessary and what size crane will be used for the installation.

<u>Crematory Model</u>	<u>Weight</u>	<u>Tons</u>	<u>KG</u>
A-101-EG	14000 lbs.	7	6,350
A-200-HT	23000 lbs.	11.5	10,432
A-200-HP	23000 lbs.	11.5	10,432
A-250- WH	27000 lbs.	13.5	12,246
A-250-WHP	27000 lbs.	13.5	12,246
A-250P-Quad	30000 lbs.	15	13,607
A-250P-6PAK	45000 lbs.	22.5	20,411
A-300-HT	30000 lbs.	15	13,607
A-350-HT	36000 lbs.	18	16,329

2. Your new Crematory will arrive on a flatbed air ride trailer or step deck air ride trailer, covered with a tarp to protect it from the elements during transportation, remove the tarp prior to installation. Please take extra precaution not to step on or damage any of the components on top of the crematory. The crematory has four lifting lugs located on top of the unit for crane installation, and four jacking lugs located at the bottom four corners for forklift and rigging installation. Connect the crane cables or straps to the lifting lugs, cables or straps must be 15 to 20 ft. in length. The crematory may now be lifted off of the trailer and moved into position.

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3. If the crematory is to be installed into the building through a side elevation opening, have the crane position the crematory as far into the building as possible. There is two ways to move the crematory into the building, (1) Lower the unit onto rollers under the channels running from side to side of the unit and push the unit into place using pry bars, (2) Lower the crematory onto machinery skates on four corners and push the unit into place. We recommend using machinery skates as this method will not damage your flooring. **Do not attempt to push or drag the crematory into place without the use of rollers or machinery skates.**
4. Once the crematory is positioned into its final location use the jacking lugs and the jacking bar(s) provided to jack one end up at a time and remove the rollers. Once the crematory is located in its final location use a small torpedo level placed on the trim of the door opening to ensure the crematory is level. If the unit is not level it may be necessary to shim the crematory, using the jacking lugs lift the unit and place steel shims placed under the appropriate corner(s).
5. After the crematory is level the stacks may now be installed. Using the crane lift the stacks off of the trailer and lower onto the top of the crematory, you may bolt the stacks together and install the two 5 ft. sections of stack as one piece if space constraints are an issue. **Use the supplied hardware to bolt the stacks together.**
6. Anchor the crematory to the floor using the concrete anchors and hardware. **You will need a rotary hammer drill with a ½ inch masonry drill bit for this procedure.** Drill straight down into the concrete through the anchor tabs welded to the unit, remove the concrete dust created from drilling the hole with a vacuum or compressed air, insert anchor into hole and tighten the lag bolt and washer.

## 7. Stack Installation

Your contractor will have to cut an opening into the roof for the stack penetration. The hole must be at least 16" larger in diameter than the outside dimension of the stack. **Note: roof flashing not provided by American Crematory Equipment Co.** However we do provide the storm collar. Ask your contractor to have a local sheet metal fabricator make the roof flashing to fit the opening in your roof. **See Drawings of roof penetration.**

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<u>Crematory Model</u>	<u>Stack Diameter</u>	<u>Roof Opening</u>
A-101-EG	27"	43" Sq. Finished I.D.
A-200-HT	26"	42" Sq. Finished I.D.
A-200-HP	26"	42" Sq. Finished I.D.
A-250-WH	27"	45" Sq. Finished I.D.
A-250P-Quad	27"	45" Sq. Finished I.D.
A-250P-6PAK	27"	45" Sq. Finished I.D.
A-300-HT	29"	50" Sq. Finished I.D.
A-350-HT	29"	50" Sq. Finished I.D.

8. The entire area where the stack penetrates through the roof must be lined with 1hr chase drywall (min). We recommend a 2hr chase lining. This prevents heat exposure to combustibles (wood framing). The minimum clearance on all sides of the stack is 8 inches. The height of the stack will depend on the site specific roof height. The refractory lined stack weighs 800-900 lbs. per 5 ft. section. The height of your stack will be pre-determined prior to shipment of your new crematory.
9. All local building codes should be followed except where ACE recommendations are more stringent, any deviations from ACE recommendations could create an unsafe condition or fire hazard.

## 10. Fresh Air Requirements

Fresh air is required for makeup air, over fire air and cooling. It is very instrumental to have a louvered air inlet installed in your building large enough to pass 2,500 cubic feet/min of fresh air. The louvered inlet should be approx. 36" x 36". "ACE" can provide as part of your package or your building contractor should be able to install one for you.

ACE recommends cross ventilation to vent accumulated heat out of the room where your crematory will be operating. Turbines or a motorized exhaust fan will be sufficient.



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## 11. Gas Requirements

All gas connections are made to the 2" gas line on top of the crematory. A manual shut off valve is supplied by ACE, have your plumbing contractor locate the shut off valve within reach at the side of the machine in case of emergency.

Your new crematory is equipped with a sensys gas pressure regulator rated for 16 to 28 inches water column or w.c. this regulator is rated for medium pressure (5lbs inlet pressure) this regulator should be vented to outside air.

Gas pressure requirements for all models are:

**Natural Gas 14" W.C. Incoming/running pressure at the crematory**

**LP Gas 11" W.C. Incoming/running pressure at the crematory**

## 12. Gas Flow Requirements

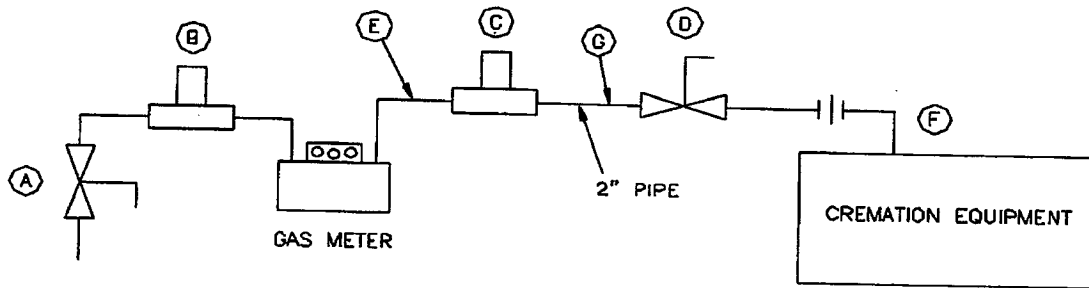
Gas flow requirements are based on the number of burners on the crematory. Gas flow requirements are listed below. Base upon Natural Gas at 1050btu per cubic ft. L.P. Gas based upon 2500btu per cubic ft.

<u>Crematory Model</u>	<u>Gas Flow Natural Gas</u>	<u>Gas Flow LP</u>
A-101-EG	2000 cfh	800 cfh
A-200-HT	1666 cfh	800 cfh
A-200-HP	1666 cfh	800 cfh
A-200-HP w/ CB 2	1905 cfh	800 cfh
A-250-WH	2143 cfh	900 cfh
A-250P-Quad	3333 cfh	1100 cfh
A-250P-6PAK	5333 cfh	1400 cfh
A-300-HT	2380 cfh	900 cfh
A-300-HT w/ CB2	3333 cfh	1100 cfh
A-350-HT	2857 cfh	950 cfh

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## 13. Flow schematic for Natural Gas



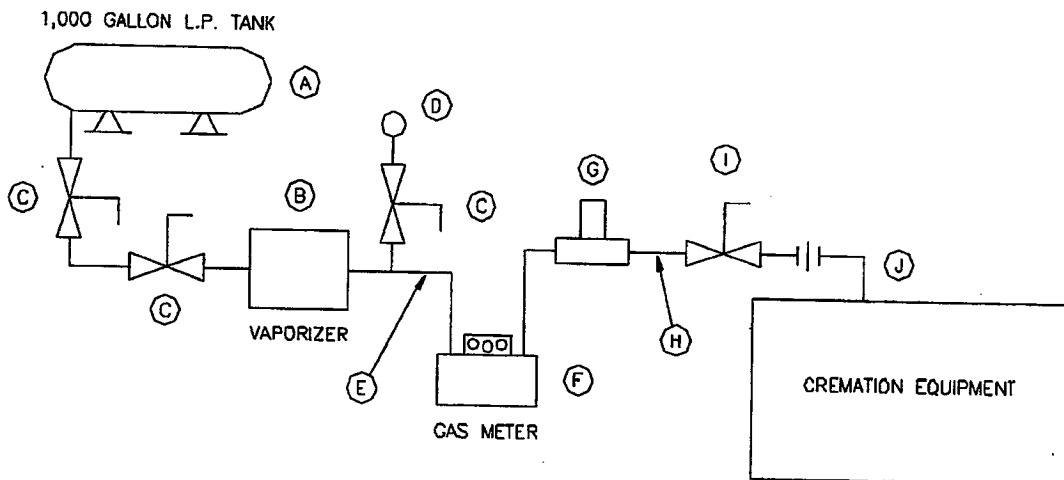
- A. Manual Gas shut-off valve supplied by Gas Company.
- B. High Pressure regulator supplied by Gas Company (High Pressure Installations only)
- C. Second Stage Regulator (Sensys). Installed on top of the crematory.
- D. Manual shut-off valve located on top of the crematory up stream of the gas pressure regulator.
- E. Pressure Test between meter outlet and regulator.
- F. 2" Black pipe connection to crematory.
- G. Pressure Adjusted to 14" w.c. running pressure.

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## 14. Flow Schematic for LP

**NOTE: An LP gas vaporizer is recommended for locations where daytime high temperatures are often below 40° F.**



### Gas

- A. 1000 Gallon minimum L.P. tank (customer supplied) for each crematory installed. Contact your local L.P. supplier for proper installation.
- B. Vaporizer (customer supplied)
- C. Manual Gas shut-off valves (customer supplied)
- D. 0-10 psi gauge (set at 8 psi) with isolation valve (customer supplied)
- E. Pressure test between vaporizer and Gas Meter.
- F. Vapor meter (customer supplied).
- G. Second stage regulator located on top of crematory (Sensys) with propane orifice.
- H. Pressure adjusted to 11" w.c. running pressure
- I. Manual shut-off located on top of the crematory upstream of the gas pressure regulator.

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## 15. Electrical Connections

American Crematory Equipment Co. factory installs 10ga wire for three phase and 8ga wire for single phase power. Incoming power for high voltage and control voltage are made in the junction box located on top of the unit at the rear next to the lifting lug. The following table lists the necessary breaker sizes for each model.

Crematory Model	230V/1phase	208V/3phase	230V/3phase	460V3phase
A-101-EG	60Amp	50Amp	40Amp	30Amp
A-200-HT & HP	60Amp	50Amp	40Amp	30Amp
A-250-WH,WHP, QUAD & 6PAK	60Amp	50Amp	40Amp	30Amp
A-300 & A-350-HT	60Amp	50Amp	40Amp	30Amp

## 16. Start up

After all items are completed and you have verified the crematory has gas and power, our service department will then schedule your start up and operator training. When the technician arrives he will perform all final adjustments and fine tuning. A 24hr cure is necessary before you can cremate in your new unit. This will also be performed by our technician upon arrival. After the curing process has been completed the operator training will begin, please have the appropriate number of cases ready for cremation for training purposes. Once all staff has been properly trained on the proper operation of equipment American Crematory Equipment Co. will supply certificates of operator training and completion.

# Chart Recorder Instructions

## To Automatically Start Saving Data:

1. Push Monitor Icon
2. Push Data
3. Push Data (Button on the bottom right must be put to "Start On")

## To Save Recording Data from MCT4:

1. Push Monitor Icon
2. Push Data
3. Push Data
4. Insert Empty USB That Will Stay with Customer
5. Push Monitor Icon
6. Push Utilities
7. Push USB
8. Select Data on Top Right Corner
9. Push Copy & Delete
10. Push Yes
11. Push Home Icon when Done and Remove USB
12. Should do This Every Year and Label the Folder on the Computer

## To Change the Time:

1. Push Monitor Icon Push Data
2. Push Data
3. Select Data on Top Right Corner
4. Push Home Icon

5. **Push Monitor Icon**
6. **Push Device**
7. **Push Settings**
8. **Push Monitor Icon**
9. **Push Offline**
10. **Push Offline**
11. **Push Yes**
12. **Push monitor Icon**
13. **Push Set**
14. **Push Clock**
15. **Set Clock to Desired Time**
16. **Push Save**
17. **Push Home Icon**
18. **Reactivate the Data Button**