KELLER MANUFACTURING

ANIMAL CREMATION CHAMBER
SPECIFICATION Model KMA 1200-400

EQUIPMENT:

Keller Manufacturing Inc. - Single Chamber Animal Cremator; Natural Gas, Propane (LP) or Oil fired.

MANUFACTURER:

Keller Manufacturing Inc.

CONSTRUCTION STANDARDS:

The cremator shall be constructed of U.L./CSA listed components and will meet or exceed nationally accepted incinerator construction standards as originally established per the Incinerator Institute of America (IIA) publication guidelines, i.e.:

A. Primary chamber will not exceed 60% of total furnace volumes. Flue connection shall not be considered part of furnace volume.

B. Flame supervision through continuous ultraviolet scanning flame detectors on all burners.

C. High temperature refractory construction with air-cooled walls to prevent excessive heat radiation.

D. Exhaust gas temperature reduction.

SAFETY CERTIFICATIONS

Underwriters Laboratories (UL) listed appliance File number MH47704.

CREMATOR DIMENSIONS:

Chamber volumes:	Primary - 114 CF (3.23 CM) Secondary - 101 CF (2.86 CM)
Primary Chamber:	101” L x 52" W x 39" H (2565 mm x 1321 mm x 991 mm)
Structural footprint:	176" L x 80" W (4470 mm x 2032 mm)
Over-all dimensions:	176" L x 91.5" W (W/ Control Panel) x 128" H (4470 mm L x 2325 mm W x 3251 mm H)

POWER CHARGING DOOR:

Door Height:	42” (1067 mm)
Door Width:	55 ¼” (1403 mm)
Door Thickness:	6” (152.4)

PRIMARY CHAMBER OPENING:

Width: 52” (1321 mm)
Roof Arch Height: 39” (984 mm) @ High Point – 35” @ Low Point

OPERATING TEMPERATURE:

Temperatures are determined as a result of federal, state or local permitting authority operating standards.

Typical primary chamber setting: 1,000ºF-1,200ºF (538ºC - 648ºC) Typical secondary chamber setting: 1,400ºF-1,800ºF (760ºC - 982ºC)

RETENTION TIME:

In excess of 2 seconds.

CAPACITY:

Single load capacity of 1200 lbs. (544 kg) per cremation cycle. Burn Rate of 150-400 lbs./hr. (68 - 181 kg)

DRAFT:

Induced via refractory lined draft inducer.

SHIPPING WEIGHT:

34,000 lbs. (15,422 kg)

EMISSIONS:

The Keller Manufacturing cremator shall meet or exceed federal, state/province and local environmental regulations.

EMISSION CONTROL:

Secondary chamber equipped with one 2,000,000 BTU/HR burner. Also equipped with an electronic exhaust gas scanner system which temporarily suspends operation of the primary chamber burner if the opacity of the exhaust gases reaches the maximum locally authorized level.

STEEL CONSTRUCTION SPECIFICATIONS:

A. The structure to be heavy 3" steel angle, square tube; 3/8" steel plate, seal welded construction.

B. Subfloor to be 3/16" steel plate, seal welded construction.

C. The exterior shell to be 12-gauge steel removable panels.

D. Interior shell to be 10-gauge steel, seal welded construction.

INSULATION & REFRACTORY SPECIFICATIONS:

A. Hot Hearth: 3000ºF (1650°C) abrasion resistant cast refractory monolithic cast 7" thick, 1" recessed top and rounded, stressed arched bottom.

B. Chamber Floors: 3000ºF (1650°C) abrasion resistant cast refractory, 5" thick on top of 2" 2400ºF (1316°C) light weight insulating castable.

C. Chamber Ceilings: 3000ºF (1650°C) cast refractory, monolithic cast, rounded, stressed arched, 5"-9" thick, topped by 2", 2400ºF (1316°C) light weight insulating castable.

D. Interior Walls: 3000ºF (1650°C) abrasion resistant cast refractory, secondary chamber walls and rear wall are backed by 6" (153 mm) of 1900ºF (1038°C) ceramic fiber insulation. Primary chamber walls are backed by 5" (153 mm) of 1900ºF (1038°C) ceramic fiber insulation.

E. Stack: Lined with 2" (51 mm) of 2200ºF (1205°C) insulating refractory.

SKIN TEMPERATURE CONTROL:

Integral dual casing, completely air-cooled design to prevent excessive heat radiation.

COMBUSTION EQUIPMENT:

A. Combustion Air - One (1) single or 3 phase, 220/460V, 17-15.5/7.6 amp, 7.5 hp air blower motor 1,700 CFM (158 CMM)

B. Primary Chamber - One 1,500,000 BTU/hr nozzle mix, gas-fired burner; Eclipse, North American, or equal.

C. Secondary Chamber - One, 2,000,000 BTU/hr modulating, nozzle mix, gas-fired burner. Eclipse, North American, or equal.

D. Burner Flame Safeguard - Control supervision on each burner via a flame safeguard relay and ultra-violet light detector.

E. Low Air Pressure Safety Switch - Interlocked to all burners.

EXHAUST GAS TEMPERATURE REDUCTION:

Hot air duct operating exit temperature: 900ºF (482ºC)

HOT AIR DUCT:

10 gauge carbon steel, high temperature 3"refractory lining, pre-drilled flanges, 26" (610 mm) Outside Diameter, 29" (710 mm) at flanges.

UTILITY REQUIREMENTS:

A. GAS:

1. Pressure:
   a) Natural Gas: 12" to 15" W.C.
   b) LP Gas (Propane): 11-14" W.C.

2. Flow Rate: 3,500,000 BTU/hr.

B. ELECTRICAL:

1. Voltage: 220/440 Volts
2. Phase: Single or 3 Phase
3. Freq.: 50/60 HZ.
4. Amps: **1 Phase** 70 Amp **3 Phase** 230v/50amps, 440v/20amps.

CREMATION CHAMBER LOADING/CLEAN-OUT DOOR:

Hydraulically operated, refractory lined, upward movement guillotine style door w/view port. It is a front loading-front cleanout design with cremated remains collection/ cooling hopper and removal system. The hydraulic system pump is a 1 HP with a capacity of 15 liters per minute or equivalent system.

CREMATION PROCESS CONTROL:

The cremation cycle is controlled by a programmable logic control (PLC) system. Visual confirmation of the system status is provided through a Color Touch Screen Panel which displays temperatures, elapsed time, burner operation and other functions. Continuous fuel and air modulation is automatically controlled by a time/temperature actuated system.
Operator interface performed through the Color Touch Screen. A Temperature Chart Recorder (if applicable) is provided.

EXTERIOR FINISH:

The top and rear compartments are finished with two coats of high temperature, textured, black polyurethane. The front and side panels are powder coated in a claret color. The cremator is trimmed in stainless steel.

TOOLS:

The tools consist of a steel wire brush and rake with long handles, and a short handle rake. A trigger Hand Magnet for removal of metal is also included.