

BOX TYPE FURNACES

Burn off – dense refractory chamber– embedded resistors

Model family: **BOX-CW10-1100**

Description.

BOX-CW10-1100 model family designed to serve under the most demanding burn off, ashing/combustion applications environments. Ideal choice for wax removal this model presents an every day partner for professionals working in dental, jewelry or other similar areas.

Constructed with seamless, hard, glass-like refractory with embedded resistors provides the highest degree of your investment protection against harsh gaseous environments, molted metals splashes and carbon or other deposits.

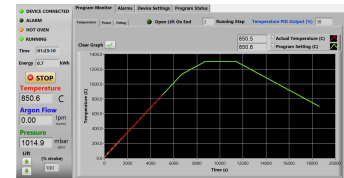
Heated from four sides of the chamber performs excellently in terms of temperature uniformity. Having as major priority the economical operation this furnace was carefully designed with a double wall ceramic insulation serving from one hand as a heat exchanger preheating the incoming combustion air and from the other as a heat barrier improving the overall thermal insulation.



Model shown is *BOX-CW10_V8.5-1100*.

With adjustable air opening in the back side and a tall exhaust chimney at the top, creating a strong natural convection, the entire volume of the chamber can be refreshed several times per minute. The preheated incoming air is entering and exiting the chamber through multiple holes creating a smooth and temperature uniform laminar air stream through the sample satisfying uniformly and continuously the combustion needs for oxygen.

Taking advantage of the optional addition of up to two flow control systems (calibrated for Nitrogen and Air) the user can prepare flow mixtures with preset concentrations of Oxygen in Nitrogen or work under fully inert (Nitrogen) atmosphere. Equipped with a touch screen computer, running the specially developed **PYROLOGISM 2.0** software, these furnaces present a truly unique and friendly, windows architecture, operator environment with advanced features.



Key features.

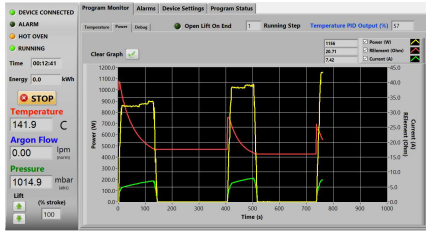
- Best available quality KANTHAL® FeCrAl wire wound resistors insure furnace long life operation.
- Control strategy based on Thermansys® PCC (Power Consistent Control) platform insures silent operation and compliance with EMC (Electro-Magnetic Compatibility) standards.
- Economical performance under daily thermal cycling.
- Accurate and uniform temperature profiles.
- Modern double wall construction keeps external surfaces temperature low, emphasizing in operator safety. Internal skin is exclusively made from stainless steel to enhance durability.
- Ergonomic design with no protruding edges, bolts or other features combines stainless steel parts with painted finish parts for an improved esthetic result.
- USB and Ethernet ports for connection to a PC
- Touch Screen Computer running PYROLOGISM 2.0 software human-machine interface.
- 3 user process thermocouple inputs available (B, E, J, K, N, R, S, T type- software configurable).
- Power and true RMS Current measuring circuits.
- Heater failure, open control thermocouple detection alarms and interlocks. Alarms and events front panel led array.
- Alarm event output (dry contact 3A/250V AC/DC).
- USB client B type and RJ45 port for connection to PC.
- Stand alone over-temperature limiter (Watchdog) with manual reset in accordance with EN 60519-2 to protect the oven and load. Overrides main controller and cut off heater power if user adjustable high limit is reached.
- Lift up door keep hot surfaces away from operator.
- Threaded ports facing the heated chamber at the rear panel for Thermocouple probe installation.

Contact details

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PYROLOGISM control and monitoring software.



Description	Status	Reset
Open Thermocouple	OK	Open Alarm Reset
Open Circuit	OK	Open Alarm Reset
Short Circuit	OK	Open Alarm Reset
LIR Calibration	OK	LIR Alarm Reset
Low Argon Flow	OK	Open Low Flow Alarm Reset
Vacuum Leak	OK	Pressure Leak Alarm Reset
Over Temperature Watchdog	OK	Watchdog Alarm Reset
Watchdog Temperature (°C)	0.0	Watchdog Active Set Point (°C)
		0.0

- Quick setting of a single ramp rate to a set point -run on timer function.
- Set-point programming with up to 15 ramp and constant temperature programming steps – graphical inspection of programming.
- Storage and reload of unlimited number of distinct programs.
- Real time chart illustrating control temperature, running set point and user process temperatures with dynamic zoom.
- Real time true-RMS Current (A), Voltage (V) and Power (W) measurements.
- Real time actual Power (W) and totalized Energy (kWh) chart.
- Saves all data on local memory.
- Tools for manual PID tuning and auto-tuning.
- Virtual keyboard, alarm and event message tab.
- Watchdog over temperature limiter monitor/configuration.
- Gas flow, monitoring and control interface pages activated if corresponding optional modules are enabled.
- Versions running at Microsoft® Windows are available for control by a PC through USB port.
- Remotely monitoring and control through network connection.

Specifications and Ordering Information.

Standard features:

- Maximum continuous temperature 1100 °C.
- Operating Power: 208 /240VAC – 50/60Hz.
- Two in depended K type embedded thermocouples for controller and over-temperature limiter feedback.
- Temperature control accuracy ± 1 °C.
- Embedded resistors type.
- Thermocouple inputs:
3 chan. - B, E, J, K, N, R, S, T type- software configurable.
24 bit A/D conversion, 0-45°C cold junction compensated
Typical accuracy $\pm 0.2\%$ f.s @ 25 , resolution 0.1 °C

Optional features:

- Flow controllers:
Number of lines: 1 or 2
Line 1 gas type calibration: Air
Line 2 gas type calibration: Nitrogen (N₂)
Flow range: 0.01-20 std L/min
Accuracy: $\pm 2\%$ of reading for Air
 $\pm 3\%$ of reading for N₂
Typical Control stability: ± 0.1 std L/min.
Temperature (0-50°C), Pressure (0-15 psig) comp.
Filtration: Not provided, user supplied HEPA grade

CE Certified. Compliant with **Low Voltage Directive 2006/95/EC** (harmonized referenced standard EN 61010-1: 2001 and EN 61010-2-010:2003) and **EMC Directive 2004/108/EC** (harmonized referenced standard EN 61326-1:2006).
Produced in GREECE following ISO 9001:2008 quality management system and ISO 14001:2004 environmental management system.

TABLE1. BOX-CW10-1100 Family Models

Model Part Number	Max. Cont. Temp. °C x Heat up time* min	Furnace internal dim. WxHxD mm	Heated Volume liters	Furnace external dim. WxH**xD mm	Nominal Max. Power (W)
BOX_CW10... _V8.5-1100	1100 x 60	210x146x280	8.5	520x676x580	3200
_V10-1100	1100 x 60	210x146x320	10.0	520x676x620	3600

* Furnace working with no load.

** Plus 100 mm for chimney

IMPORTANT ORDERING NOTES:

- Models Part Number listed in Table 1 concern complete turn key systems without flow controllers included.

Ordering Examples:

- BOX-CW10_V8.5-1100: This Part Number includes one BOX-CW10-1100 family furnace having 210x146x280mm internal chamber dimensions including all standard features.

- To order the furnace with one flow controller add at the end of the part number the suffix “LINE X”,

e.g: BOX-CW10_V8.5-1100_LINE1 for air calibration or BOX-CW10_V8.5-1100_LINE2 for Nitrogen calibration

- To order the furnace with two flow controllers add at the end of the part number the suffix “LINE 1/2”,

e.g: BOX-CW10_V8.5-1100_LINE1/2.

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