THERMANSYS

BOX TYPE FURNACES
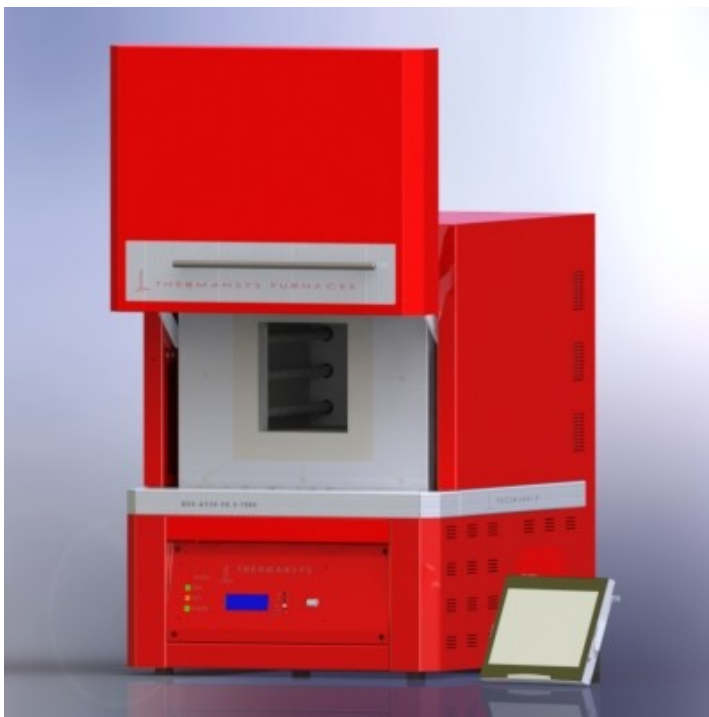## 1550 ˚C max.Temperature –SiC resistors
Model family: BOX-AS10-1600

Description.

BOX-AS10-1600 model family designed to give repeatable and reliable results in the most aggressive high temperature processes up to 1**550 °C continuously**. Utilizing the unique high density Kanthal Globar SiC resistors these furnaces have superior performance in terms or resistance to oxidation and chemical attack, highly extending the workable life of your investment.

Having as major priority the economical operation this furnace was designed with double wall ceramic insulation serving from one hand as a heat exchanger preheating the incoming air and from the other as a heat barrier improving the overall thermal insulation. Constructed using the highest quality fibrous low mass density thermal insulation leads to important energy savings.

With adjustable air opening in the back side and an 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 air stream through the sample.

Standard equipped with a Digital LCD display temperature controller providing 15 step programming with 1 program storage.

Optionally equipped with s remote, touch screen, computer running the specially designed PYROLOGISM 2.0 software, provides a really unique and friendly, windows oriented architecture interface with multiple, advanced features and peripherals.

Ergonomic design with no protruding edges, bolts or other features combines stainless steel parts with painted finish parts for an improved aesthetic result.
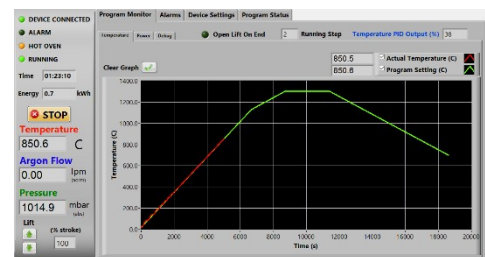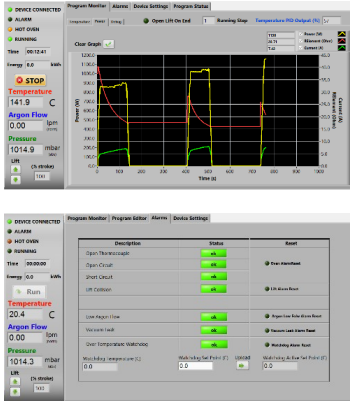
Key features.

- Control strategy based on Thermansys® PCC (Power Consistent Control) platform insures silent operation and compliance with EMC standards.
- Modern double wall construction keeps external surfaces temperature low. Internal skin is exclusively made from stainless steel to enhance durability.
- Lift up door keep hot surfaces away from operator.
- Heater failure, open thermocouple detection, door open alarms and interlocks.

- Optional Touch Screen Computer running PYROLOGISM 2.0 software human-machine interface.
- Kanthal Globar SRO Heating Elements
- Power and true RMS Current measuring circuits.
- 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.

PYROLOGISM control and monitoring software.

- 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.
- Graphical inspection of programming.
- Real time chart illustrating control temperature and running set point.
- 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.

Specifications and Ordering Information.

Standard features:

- Maximum continuous temperature 1550 ˚C.
- Operating Power: 240 /400VAC – 50/60Hz.
- Digital LCD temperature controller with 15 step programming and I program storage.
- S type embedded thermocouples for main controller and (optionally) for over-temperature limiter feedback.
- Temperature control accuracy ±1 ˚C.
- Exposed resistors type. **Kanthal Globar Silicon Carbide SiC**.
- Safety thermostat
- Thermocouple inputs: 3 chan. - B, K, R, S, T Software configurable (optional).

Optional features:

- Remote, touch screen computer running the specially designed PYROLOGISM 2.0 software on a 10.0in Tablet PC. **Add suffix _TSC.**
- Programmable stand-alone over-temperature limiter (Watchdog) with manual reset in accordance with EN 60519-2 to protect the heater and load, **Add suffix _WD.**
- UPS (Uninterrupted Power Supply). Keep system alive for short periods of power failure and restore program after power recovery **Add suffix _UPS**
- Flow controllers: Number of lines: 1 or 2 Flow range: 0.01-20 std L/min - Accuracy: ±2% of reading for Air , ±3% of reading for N2 - Typical Control stability: ± 0.1 std L/min. **Add suffix_Line 1,** for gas type calibration: Air, **Add suffix_Line 2,** for gas type calibration: Nitrogen (N$_2$)

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).

TABLE1. **BOX-AM10-1600 Family Models**

Model Part Number BOX-AS10…	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)
_V3.2-1600	1550 x 90	120x160x170	3.2	520x710x550	3200
_V3.8-1600	1550 x 90	120x160x200	3.8	520x710x580	3800
_V5.0-1600	1550 x 90	140x160x220	5.0	540x710x600	5000
_V6.3-1600	1550 x 90	140x180x250	6.3	540x730x630	6400
_V8.3-1600	1550 x 90	160x180x290	8.3	560x730x670	7600
_V10.0-1600	1550 x 90	160x180x350	10.0	560x730x730	8000

* *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 including all standard features..
 Ordering Examples:
- BOX-AS10_V3.2-1600: This Part Number includes one BOX-AS10-1600 family furnace having 120x160x170 mm 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-AS10_V3.2-1600-**LINE1** for air calibration or BOX-AS10_3.2-1400-**LINE2** for Nitrogen calibration
- BOX-AS10_V3.2-1600-**TSC-WD**. This Part Number includes one BOX-AS10-1400 family furnace having 120x160x170 internal chamber dimensions including all standard features plus a Tablet PC running the PYROLOGISM 2.0 software and a programmable over-temperature limiter.

🇬🇷 **HELLENIC PRODUCT.**

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