



BOX TYPE FURNACES

1700 °C max. Temperature -MoSi₂ resistors KANTHAL HT resistors – Zirconia Sintering

Model family: **BOX-AM10-1700 RF**

Description.

BOX-AM10-1700 RF model being able to reach and maintain temperature at **1700 °C continuously** represents an ultra high temperature chamber furnace.

Best quality and highest temperature ratings **KANTHAL Super HT** MoSi₂ resistors used, known for their long working life under thermal cyclic conditions, are not affected by thermal shock and can withstand very high element power loads thereby provide a heating solution for extremely fast temperature ramping processes. These heating elements, in addition, having **significantly reduced Ferrous** content are minimizing the risk of sample contamination providing the **best solution for Zirconia sintering**. Can be used continuously or intermittently with no restriction.

Having as major priority the economical operation this furnace was designed with double wall low mass density thermal ceramic insulation serving both as a heat exchanger preheating the incoming air and as a heat barrier improving the overall thermal insulation.



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

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



Optionally equipped with a 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.



Key features.

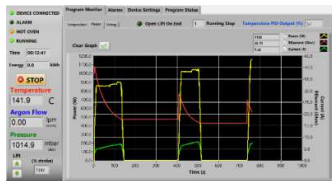
- Control strategy based on Thermansys® PCC (Power Consistent Control) platform insures silent operation and compliance with EMC standards.
- Modern double wall construction keeps external surfaces temperature low. Internal skin is exclusively made from stainless steel to enhance durability.
- Lift up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

Contact details

Ath. Stagiriti 7- Pilea, Thessaloniki Greece, 55534
tel. 0030 2310 942346, fax. 0030 2310 942336

Information and data contained in this document was considered correct at the time of publication. Thermansys® is reserving the right to make modifications as a result of design improvements.

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 1700°C.
- Operating Power: 230 /400VAC – 50/60Hz.
- Digital LCD temperature controller with 15 step programming and I program storage.
- B type embedded thermocouples for main controller and (optionally) for over-temperature limiter feedback.
- Temperature control accuracy ± 1 °C.
- Exposed resistors type. **Kanthal Super 1800** Molybdenum Disilicide-MoSi₂.
- Safety thermostat
- Thermocouple inputs: 3 chan. - B, K, R, S, T Software configurable.
24 bit A/D conversion, 0-45°C cold junction compensated

Optional features:

- Remote, touch screen computer running the specially designed PYROLOGISM 2.0 software on a 10.0 in 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: $\pm 2\%$ of reading for Air , $\pm 3\%$ 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 (N₂)

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-AM10-1700 RF 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)
_V2.5-1700 RF	1700 x 70	140x160x120	2.5	500x770x520	2600
_V4.5-1700 RF	1700 x 70	140x160x200	4.5	500x770x520	4200
_V7-1700 RF	1700 x 70	140x160x320	7.0	500x770x640	6400
_V10-1700 RF	1700 x 70	160x200x320	10.0	520x810x640	7600

* 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-AM10_V2.5-1700 RF: This Part Number includes one BOX-AM10-1700 RF family furnace having 140x160x120 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-AM10-V2.5-1700 RF-**LINE1** for air calibration or BOX-AM10-V2.5-1700 RF-**LINE2** for Nitrogen calibration

-BOX-AM10_V2.5-1700 RF-**TSC-WD**. This Part Number includes one BOX-AM10-1700 RF family furnace having 140x160x120 internal chamber dimensions including all standard features plus a Tablet PC running the PYROLOGISM 2.0 software and a programmable over-temperature limiter.

Contact details

Ath. Stagiriti 7- Pilea, Thessaloniki Greece, 55534

tel. 0030 2310 942346, fax. 0030 2310 942336

e-mai: info@thermansys.com

www.Thermansys.com

Information and data contained in this document was considered correct at the time of publication. Thermansys® is reserving the right to make modifications as a result of design improvements.