RESULTS REPORT

FORM MIRTEC-200-4-E

LAB RECORD S/N: **100495**

1. MIRTEC'S PROJECT No....: ANA022348

2. DATE OF ISSUE.....: 28/09/2021

3. COMPILED BY: VANGELIS LAIOS, ELECTRICAL ENGINEER, HEAD OF THE ELECTRIC CABLE DEPARTMEN

4. APPROVED BY: NIKOS EXARCHEAS, COMPUTER ENGINEER, LAB MANAGER

5. CUSTOMER.....: PAPADOPOULOS K.E. LTD

6. ADDRESS.....: 31 PROFITI ILIA str. 14451 METAMORFOSI ATHENS GREECE

TEL./ FAX.....: +30 6945 976 046

e-mail.....: kptexn@yahoo.gr

7. VAT No. & TAX SERVICE.....: 998096929 - NEAS IONIA

8. CUSTOMER'S APPLICATION.....: MIRTEC-300/ 489/21-7-2021

9. TESTING LABORATORY.....: MIRTEC'S ELECTROTECHNICAL PRODUCTS TESTING LABORATORIES

10. ADDRESS.....: A' INDUSTRIAL AREA, P.O.BOX 13, VOLOS

11. TESTING/INSPECTION LOCATION : A' INDUSTRIAL AREA, P.O.BOX 13, VOLOS

12. TEST ITEM.....: Convector room heater appliance

13. TYPE/ MODEL.....: KA.PA THERM 1

14. S/N.....: ---

15. SUPPLY RATING.....: 230 V ~ 8,5 A

16. MANUFACTURER.....: PAPADOPOULOS K.E. LTD

17. TRADEMARK.....: PAPADOPOULOS K.E. LTD

18. NUMBER OF SAMPLES.....: One (1)

19. TEST ITEM's RECEIVED DATE...: 6/9/2021

20. TESTING/ INSPECTION PERIOD..: FROM 27/9/2021 UP TO 28/9/2021

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21. MEASUREMENTS PURPOSE.....: Non standardized energy performance (%) of an electric convector room heater.

22. MEASURING INSTRUMENTS.....: Power source stabilizer

Ampere monitoring multimeter

Voltmeter

Temperature monitoring equipment (15 thermocouples)

Measuring tape

23. MEASUREMENT UNITS.....: A, V, °C, m

24. PROCEDURES OF MEASUREMENT...: **Non-standard test procedures.**

a.- Measurements and calculation of the heat outlet surface (S).

b.- The temperature over the appliance's outlet is measured and monitored at three (3) points (T_S).

c.- The temperature under the appliance's inlet is measured and monitored at three (3) points (T_a).

d.- Measurement and monitoring of the power input according to EN 60335-1 standard (P).

e.- Test duration = 1 h.

f.- Calculation formula for heat power

$H = S \times v \times D \times \rho \times \Delta T$

where:

H : Heat power in kJ/s

S : Calculated surface in m^2

v : Air velocity as constant 0,3 m/s

D : Air density as constant 1,2 kg/m^3

ρ : Air heat capacity as constant 1,007 kJ/kgK

ΔT : Difference of temperature in K (Ts – Ta)

g.- Calculations for heat power (kJ/s), electrical power (W), heat energy (J) and electrical energy (Wh).

h.- Calculation of power efficiency % (Heat power/ electrical power).

i.- Calculation of energy efficiency % (Heat energy / electrical energy).

25. SAMPLING PROCEDURE.....: Sample provided by the manufacturer

26. MEASUREMENT UNCERTAINTY.....: ---

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27. ATTACHMENTS:

a.- FORM MIRTEC-300/ 495/ 13-9-2021 PAGES: 1

TOTAL NUMBER OF PAGES OF THIS REPORT: 9

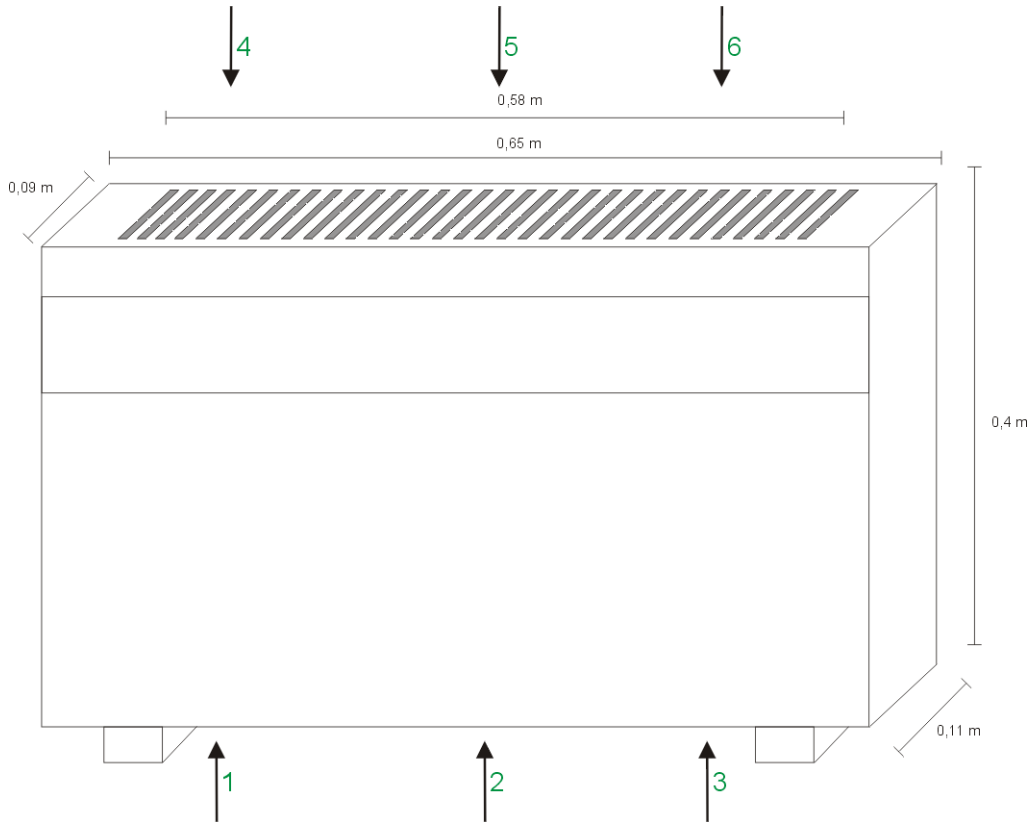
28. TEST ITEM PARTICULARS:

a.- Appliance dimensions: (650 x 110 x 445)mm

b.- Weight: 12,7 kg

c.- Supply connection: Power cord with plug

29. TEST ITEM SETUP:



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30. RESULTS/ CALCULATIONS:

a.- Conditions and formulas

Stabilized ambient temperature: 25 °C 35 %RH 1.015 mbar

Power Supply: 230 V ±0,5 V, 50 Hz

(1) Heat power formula: H = S • v • D • ρ • Δt

H Heat power kJ/s

S 0,58 m x (0,09 m + 0,01 m) = **0,058 m²**

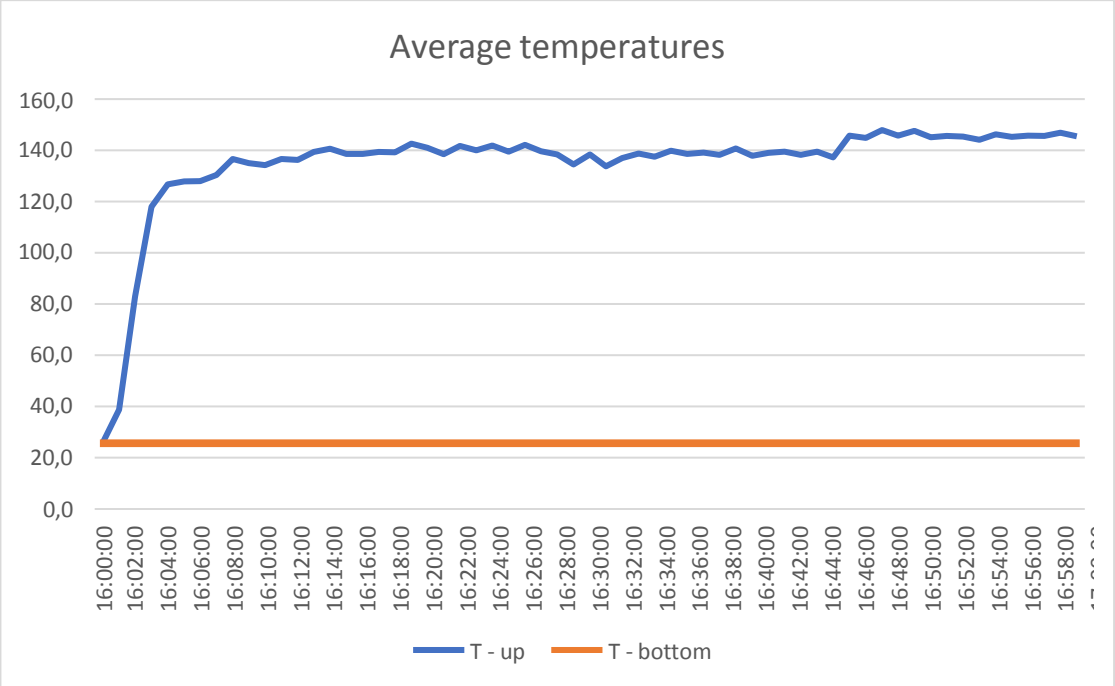
v air velocity = **0,3 m/s**

D air density = **1,2 kg/m³**

ρ Air heat capacity = **1,007 kJ/kgK**

Δt Temperature rise in K

(3) One hour temperature graph



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b.- Measurements and Calculations

(1) Temperature related data

Average temperature bottom: **25,9 °C**

Average temperature top: **147,9 °C,**

Δt: **122,0 K**

(2) Power related data

Power input: **1.910 W**

Electric energy consumption (start up to 1h): **498 Wh (0,498 kWh)**

(3) Heat power calculation

H = 0,058 m2 x 0,3 m/s x 1,2 kg/m3 x 1,007 kJ/kgK x 122 K

H = 2,566 kJ/s = 9.234,7 kJ/h = **2.207,1 kcal/h**

(4) Power efficiency % calculation

P = 1.904 W = 6.854,4 kJ/h

n_{power} = (9.234,7 kJ/h / 6.854,4 kJ/h) x 100 = **134,7 %**

(5) Energy efficiency % calculation

Appliance volume = 0,65 m x 0,4 m x 0,11 m = 0,0286 m^3

E_h = 1.007 J/kgK x 122 K x (1,2 kg/m^3 x 0,0286 m^3) = 4,216 kJ

E_p = 498 Wh = 1.792,8 kJ

n_{energy} = (4,216 kJ / 1.792,8 kJ) x 100 = **0,24 %**

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31. TEST ITEM'S IMAGES:

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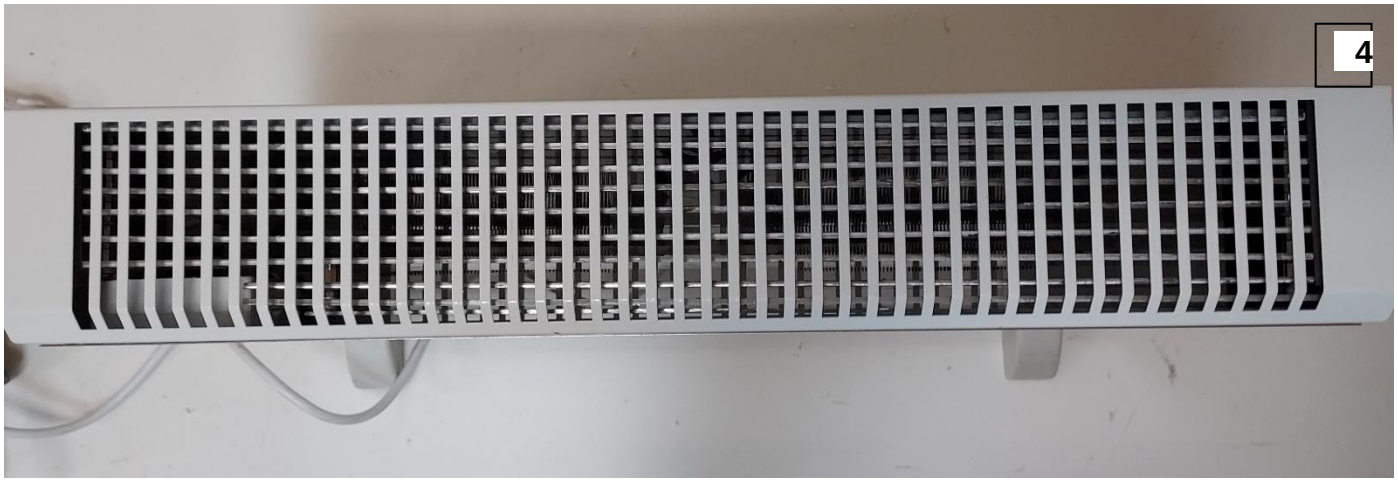

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32. ATTACHMENTS:

a.- Attachment - FORM MIRTEC-300/ 495/ 13-9-2021

Εργαστήρια Ελέγχου Ηλεκτροτεχνικών Προϊόντων MIRTEC

ΑΡΙΘ.ΠΡΩΤΟΚ.: 495/13-9-21 Σελ.: 1/2

ΑΡΙΘ. ΕΡΓΟΥ MIRTEC: ΑΝΑΘ22348

ΔΕΛΤΙΟ ΑΙΤΗΣΗΣ ΠΕΛΑΤΗ
MIRTEC-300

ΜΕΡΟΣ "Α" *(ΣΥΜΠΛΗΡΩΝΕΤΑΙ ΑΠΟ ΤΟΝ ΠΕΛΑΤΗ)*

1.	ΠΕΛΑΤΗΣ *(Επωνυμία – Ελληνικά και Αγγλικά)*	:	ΠΑΠΑΔΟΠΟΥΛΟΣ Κ.Η. ΜΟΝΟΠΡΟΣΩΠΗ ΕΠΕ
2.	ΕΠΑΓΓΕΛΜΑ	:	ΤΕΧΝΙΚΗ ΕΤΑΙΡΕΙΑ
3.	ΔΙΕΥΘΥΝΣΗ	:	*Οδός & αριθ.:* ΠΡΟΦΗΤΗ ΗΛΙΑ 31 *τ.κ. / Πόλη:* 14451 – ΜΕΤΑΜΟΡΦΩΣΗ ΑΤΤΙΚΗΣ *Τηλ. / email:* 6945976046 – kptexn@yahoo.gr
4.	ΑΦΜ & ΔΟΥ	:	998096929 – ΝΕΑΣ ΙΩΝΙΑΣ
5.	ΕΚΠΡΟΣΩΠΟΣ ΕΠΙΚΟΙΝΩΝΙΑΣ ΜΕ ΤΑ ΕΡΓΑΣΤΗΡΙΑ + ΤΗΛΕΦΩΝΟ	:	ΠΑΠΑΘΑΝΑΣΙΟΥ ΠΑΝΤΕΛΗΣ 6980350557 & 2681024717
6.	ΑΙΤΗΜΑ ΠΕΛΑΤΗ: α.- Μη τυποποιημένη μέθοδος προσδιορισμού απόδοσης σε συμφωνία με πελάτη.		
7.	■ ΕΧΩ ΛΑΒΕΙ ΓΝΩΣΗ ΤΟΥ ΔΕΛΤΙΟΥ MIRTEC-301 ΕΚΔΟΣΗ 24η 21-1-2021.		
8.	ΕΠΙΘΥΜΗΤΗ ΓΛΩΣΣΑ ΕΚΔΟΣΗΣ ΑΙΤΟΥΜΕΝΗΣ ΤΕΚΜΗΡΙΩΣΗΣ: ■ el-ΕΛΛΗΝΙΚΑ ☐ en-ΑΓΓΛΙΚΑ		
9.	ΕΚΔΟΣΗ ΒΕΒΑΙΩΣΗΣ: ■ ΝΑΙ ☐ ΟΧΙ ☐ el-ΕΛΛΗΝΙΚΑ ■ en-ΑΓΓΛΙΚΑ		
10.	ΔΟΚΙΜΙΟ – ΠΡΟΪΟΝ	:	α.- θερμαντήρας χώρου άμεσης δράσης
11.	ΠΡΟΒΛΕΠΟΜΕΝΗ ΧΡΗΣΗ ΠΡΟΪΟΝΤΟΣ	:	■ ΟΙΚΙΑΚΗΣ ΧΡΗΣΗΣ ■ ΕΠΑΓΓΕΛΜΑΤΙΚΗΣ ΧΡΗΣΗΣ ☐ ΒΙΟΜΗΧΑΝΙΚΗΣ ΧΡΗΣΗΣ
12.	ΤΥΠΟΣ / ΜΟΝΤΕΛΟ	:	α.- ka.pa therm 1
13.	ΤΑΞΙΝΟΜΗΣΗ/ ΟΝΟΜΑΣΤΙΚΑ ΜΕΓΕΘΗ	:	65cm x 40cm x 11cm
14.	ΚΑΤΑΣΚΕΥΑΣΤΗΣ	:	
15.	ΔΙΕΥΘΥΝΣΗ ΕΡΓΟΣΤ. ΚΑΤΑΣΚΕΥΗΣ	:	
16.	ΣΗΜΑ ΚΑΤΑΤΕΘΕΝ ή ΛΟΓΟΤΥΠΟ	:	KA.PA THERM 1
17.	ΠΑΡΑΤΗΡΗΣΕΙΣ ΠΕΛΑΤΗ: ΠΑΡΑΚΑΛΩ ΝΑ ΓΙΝΕΙ ΔΟΚΙΜΗ ΓΙΑ ΕΝΕΡΓΕΙΑΚΗ ΑΠΟΔΟΣΗ		

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Testing
No. of Certificate 1182

ΕΓΚΡΙΣΗ ΔΕΛΤΙΟΥ: 27/6/2020 ΕΚΔΟΣΗ: 4

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32. NOTES:

a.- The test results of this report apply only to the item tested.

b.- The original of this report is forwarded to the customer and a complete e-copy remains in the lab.

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e.- The dates mentioned in this Report are of the d/m/yyyy form.

f.- In this report the tests fall outside the laboratory's scope of accreditation.

END OF RESULTS REPORT