

REPORT OF TEST



SGS U.S. Testing Company Inc.

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Report No.: FT97-0030  
Date: 4/22/97  
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**CLIENT:** Emissions Technology, Inc.  
P.O. Box 471916  
Tulsa, OK 74174  
  
Attn: Clark Daywalt

**SUBJECT:** Efficiency testing of ECO Systems by use of a propane source.

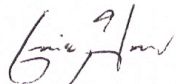
**REFERENCE:** Verbal 4/15/97.

**SAMPLE ID:** Client refers to the sample as "ECO System, Model ECO-2".

**PROCEDURE:** The testing procedure used a flow meter, monitoring propane flow, to measure the temperature of a gas brooder. With a thermal couple located in the brooder, the temperature of the flame was evaluated in comparison to propane flow. Tests were recorded with and without the sample ECO System in line with the brooder.

**RESULTS:** The results are on the following pages.

**TEST DATE:** 4/17/97.

  
Eric Hundley, Engineer

bk

Signed for the Company

Dale E. Holloway  
Tulsa Branch Director

Member of the SGS Group

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**RESULTS:**

**Brooder Temperature Test Standard Installation**

Sample Number	Measurement (mm)	Temperature (°C)	Flow Rate (ft <sup>3</sup> /min)	Flow Rate (BTU/hr)
1	5	1049	0.0435	6495
2	10	1095	0.0869	12970
3	15	1120	0.1300	19400
4	20	1142	0.1730	25825
5	24.5	1150	0.2097	31310

**Brooder Temperature Test With ECO System**

Sample Number	Measurement (mm)	Temperature (°C)	Flow Rate (ft <sup>3</sup> /min)	Flow Rate (BTU/hr)
1	5	1065	0.0435	6495
2	10	1109	0.0869	12970
3	15	1140	0.1300	19400
4	20	1165	0.1730	25825
5	24.5	1191	0.2097	31310 (Extrapolated)

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**CONCLUSION:**

Three temperature points were evaluated for flow differences made with the ECO System and without. These points are evaluated in terms of flow difference and percent efficiency difference.

**EVALUATED TEMPERATURE POINTS**

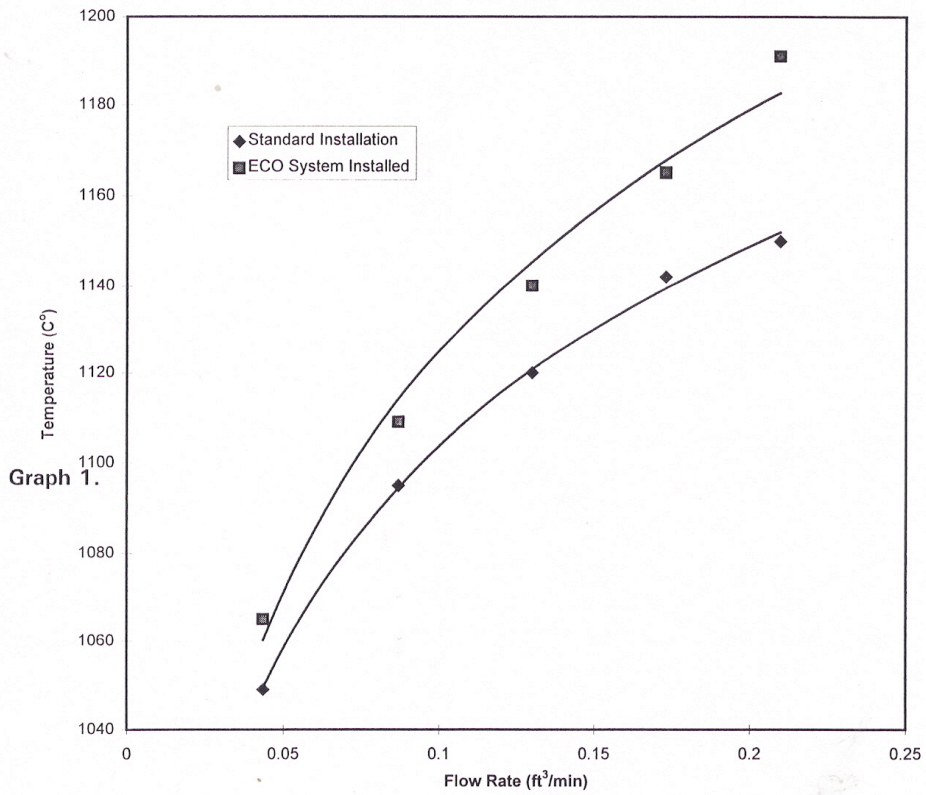
Sample	Temperature (°C)	Flow Difference (ft <sup>3</sup> /min / BTU/hr)	Efficiency Difference (%)
1	1065	.0151 / 2253	25.8
2	1095	.0138 / 2060	15.9
3	1125	.0306 / 4568	17.7
AVERAGE - 2960 BTU/hr			19.8%

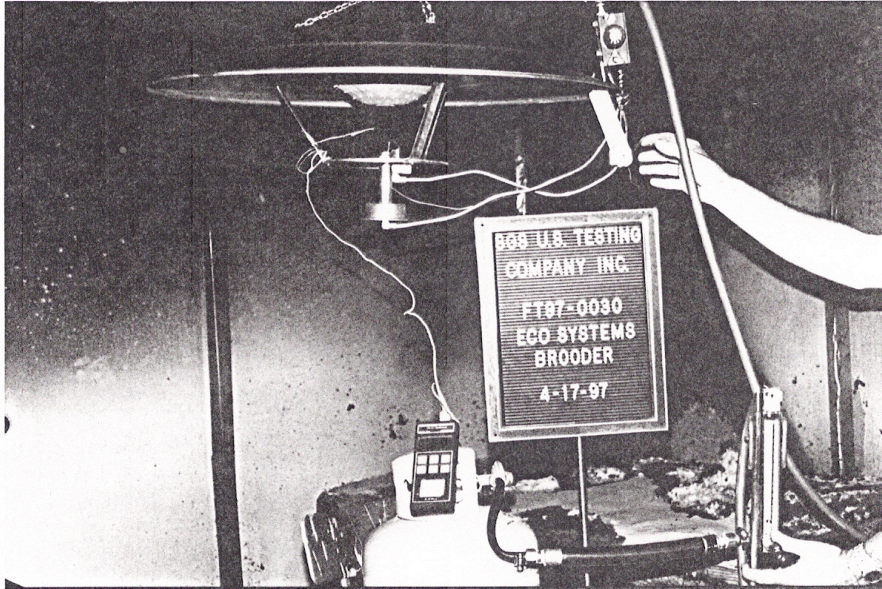
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Temperature Achieved Vs. Flow Rate of Propane





Systems Brooder with ECO System Installed

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Standard Brooder without Set-up