

INDEPENDENT TECHNICAL  
ASSESSMENT REPORT

No: 11/300

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DATE: 23/3/00  
I.T.A.R. NO.: 11/300  
COUNTRY: USA  
STATE: Arizona

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CLIENT NAME:

Arizona Mobile Air- Test Lab Division

PRODUCT/SERVICES:

Mobile air conditioning equipment & component testing facility

ADDRESS:

Phoenix Arizona USA

PURPOSE:

Establish condenser and evaporator BTU capacity using Roc Oil AA1  
and overall system efficiency

METHODOLOGY:

The test was performed in accordance with ASHRAE standard 20-70  
"Method of testing for rating remote mechanical draft air-cooled  
Condensers and Evaporators.

The test evaporator was installed into ducts and the air flow recorded.  
R134a refrigerant was supplied to the coil from a Nippondenso 10PA15C  
automotive compressor with a fixed speed of 2,240 RPM.

Calorimeter room heat input was supplied by electrical strip heaters  
creating a desired evaporator heat load (in car temperature).

The condenser was placed in a room with recirculating air. The desired  
condenser heat load was provided by a water-cooled heat exchanger  
(ambient air temperature). Seven temperature, two pressure and a  
refrigerant flow rate were monitored.

The test was conducted under the following conditions: Ambient air  
temperature 120deg. F, in car temperature 80, 90,100,110,120,130,  
and 140deg.F. A digital data logger was used to gather information  
at each point every ten seconds. The test duration was nine hours  
for each evaporator temperature level giving a total of sixty three  
hours running time.

RESULTS:

The Condenser and Evaporator showed a high degree of efficiency with no  
evidence of oil logging in either heat exchanger. The compressor did not  
exhibit abnormal noise levels and pressure/temperature indicators showed  
better than expected figures.

TEST INFORMATION ON PRODUCTS CONTAINED IN THIS REPORT DOES NOT IMPLY  
AN ENDORSEMENT BY THE INDEPENDENT TEST COMPANY.

FOR FURTHER INFORMATION PLEASE CONTACT:

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