

SuperTest



Testing

Requirements

Law

Standards

Policies

Regulation

Compliance

Validation



A division of



Providing advancement and innovation in services and manufacturing to provide HVACR solutions for a better world.



OUR FACILITY

Based in Queensland, Australia, SuperTest is a purpose-built facility that can simulate real-world temperature and humidity conditions for the accurate and scientific analysis of HVACR systems. The SuperTest facility is made up of three major test chambers, in which any system – stationary or mobile – can be tested.

Our facility validates the performance and efficiency of your HVACR system. The results enable you to optimise your system in order to achieve cost efficiencies without dramatically affecting operational costs, ensure the system meets regulatory and compliance standards, and minimise emissions and food waste.

TEST CHAMBERS



SuperTest's largest chamber is big enough to accommodate Australia's biggest road registered vehicle (up to 25 metres long). A full-size refrigerated trailer or a double-decker bus easily fits. Our two other chambers can easily accommodate the indoor units of most mobile equipment. The controlled temperature in every insulated SuperTest environmental chamber can range from 0°C to



+55°C with 40% to 98% relative humidity in a steady state, regardless of outside conditions. Advanced Ahlborn data acquisition hardware and software, along with Flir thermal imaging cameras, Eltrek data loggers and WinControl operating software ensures that test results from the tightly controlled conditions are collected and analysed to a high standard.



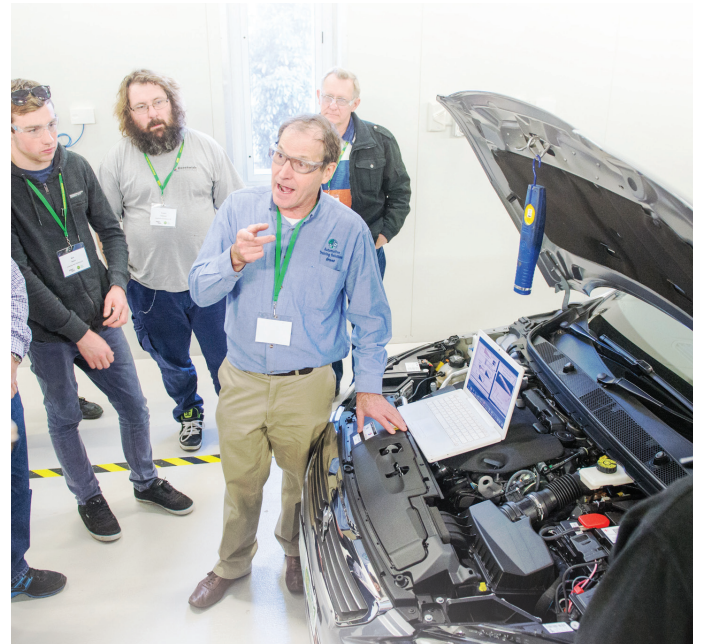
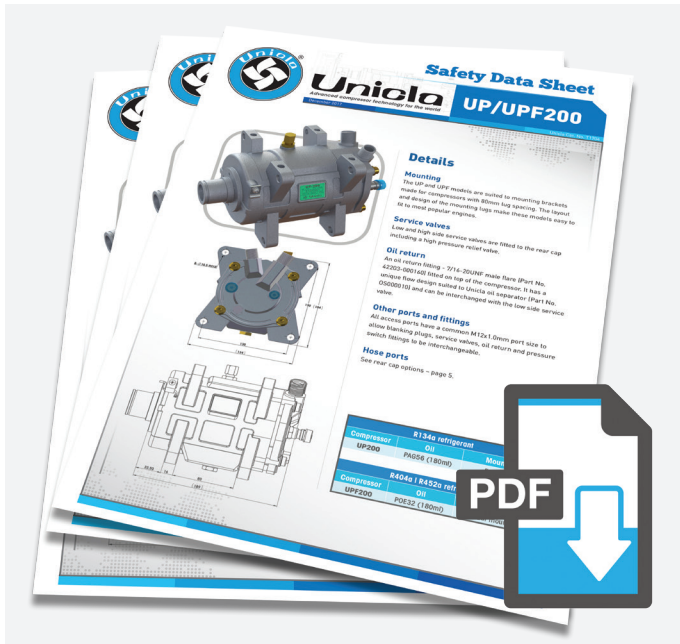
PRIMARY

CONSULTANCY

Engaging SuperTest to assess equipment designs and operational processes enables your team to make refinements before you commit to large investments, with the potential to make substantial up-front savings and minimise ongoing costs.

TESTING AND VALIDATION

SuperTest can simulate refrigeration operating systems at set conditions to analyse individual components and convert the raw operating result of temperature ($^{\circ}\text{C}$), airflow (L/s), power consumption (kW), fuel consumption (L/S), refrigerant mass flow (kg/s) and more, into standard engineering formulas to validate calculated outcomes.



SERVICES

MAINTENANCE SUPPORT

SuperTest can provide instruction manuals and products to maintain your system, to ensure it achieves the best performance all year round.

ACCESSIBLE AND AFFORDABLE TRAINING

SuperTest can provide training for the technician, manufacturer, operator and end user in best practices for the cold chain. SuperTest can also tailor regular training sessions to keep your business up to speed with the latest technologies and standards.



CONSISTENT TEMPERATURE

Control logic is vital for compliance where accepted safety standards (such as HACCP) are in place.

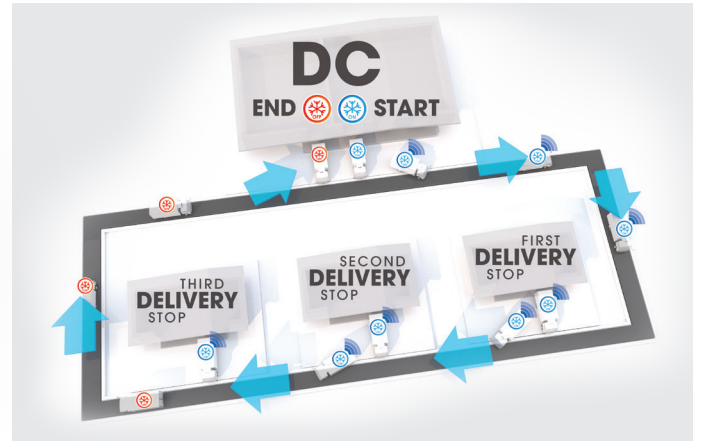
SuperTest can assist these industries:

- Food and perishable goods
- Pharmaceuticals and medical supplies
- Information technology systems
- Passenger comfort
- Agricultural

EQUIPMENT TEST SERVICES

- Compressor performance and capacity testing
- Pre-production durability and validation testing of system components
- Refrigerant performance and capacity testing
- Efficiency testing of different system component combinations
- Simultaneous replication of performance in multiple temperature and humidity conditions

STATIONARY OR MO



EFFECTIVENESS OF REFRIGERATION POWER

SuperTest can perform the body and system tests required to meet Australian refrigerated vehicle standards (AS 4982):

1. Must reach classification temperature and hold for 8 hours
2. Must hold classification temperature with 35% additional leakage load (from K coefficient test) for a further 4 hours

REFINING THE COLD CHAIN PROCESS

- Simulate multiple door openings and delivery intervals
- Record real-world journey temperature fluctuations
- Mapping of optimum airflow and load configurations to maintain correct product temperatures
- Determine optimum refrigeration settings to benefit manufacturers, operators and consumers

TRAILER SYSTEM TESTS

DELIVERING

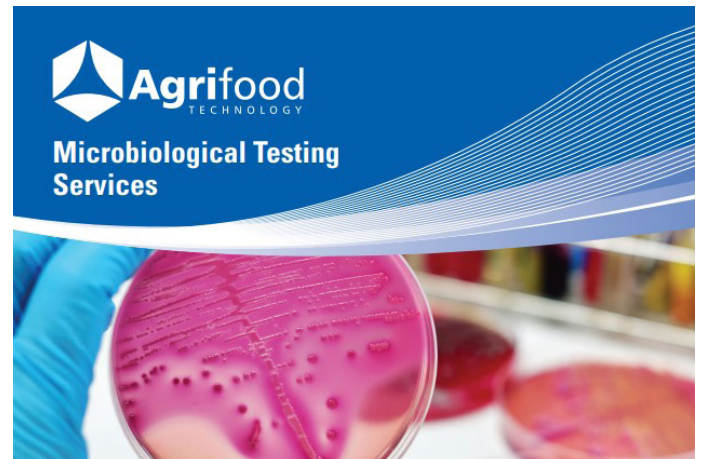


REFRIGERANT AND REFRIGERANT OIL ANALYSIS

SuperTest can test and analyse refrigerant oil from your system and provide expert review based on the scientific report. SuperTest can also take a sample of the refrigerant in a system and determine its purity or if it has been contaminated by another refrigerant, acid, moisture or air.

AGRIFOOD TECHNOLOGY

SuperTest in collaboration with Agrifood Technology provide a variety of microbiological food testing procedures in accordance with Australian Standards. AFT is a NATA accredited lab that provides testing for pathogens, indicator organisms and has available rapid detection methods for both *Listeria* Spp and *Salmonella* Spp in Food products. If you have concerns regarding your refrigerated products, SuperTest and AFT can create a suitable testing regime.



EVIDENCE



SCIENTIFIC



COMING SOON: SOUND

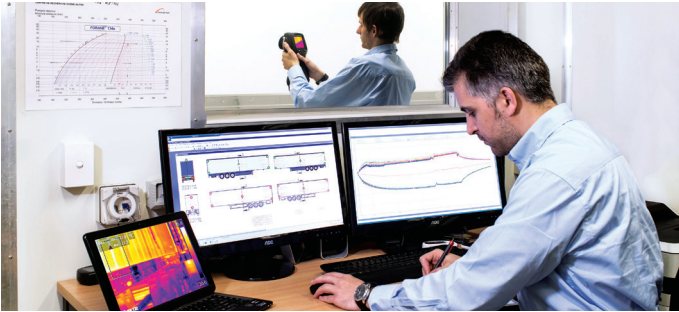
SuperTest is in the process of updating its chambers to have the ability to accurately measure Sound Power Level at specific Octave Band frequencies (Hz) Noise Rating (NR) and Sound Pressure Level dB(A).



REFRIGERATED PRODUCT SHELF LIFE TEST

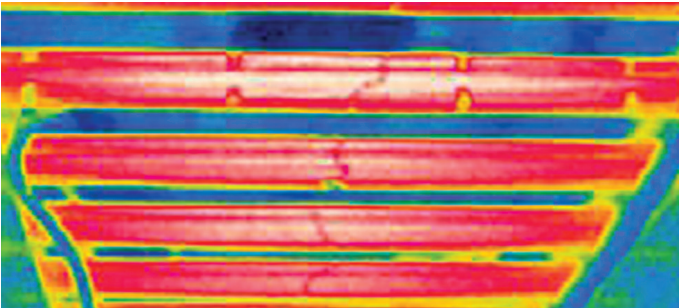
SuperTest has the ability to accurately control a refrigerated space within a 0.5K differential of the set point. We can simulate almost any temperature you require and scientifically measure the results of product temperature abuse and the affects of shelf life of the product in accordance to Australian standards.

INDUSTRY TAILORED



K VALUE

Testing the amount of heat transferred through leakage into or out of a temperature-controlled space.



THERMAL IMAGERY

Advanced thermal imaging equipment pinpoints heat leakages at various points of any thermal structure. SuperTest can review and advise where heat barriers are being broken in order to improve insulation failures and refrigeration efficiency.



AIRFLOW

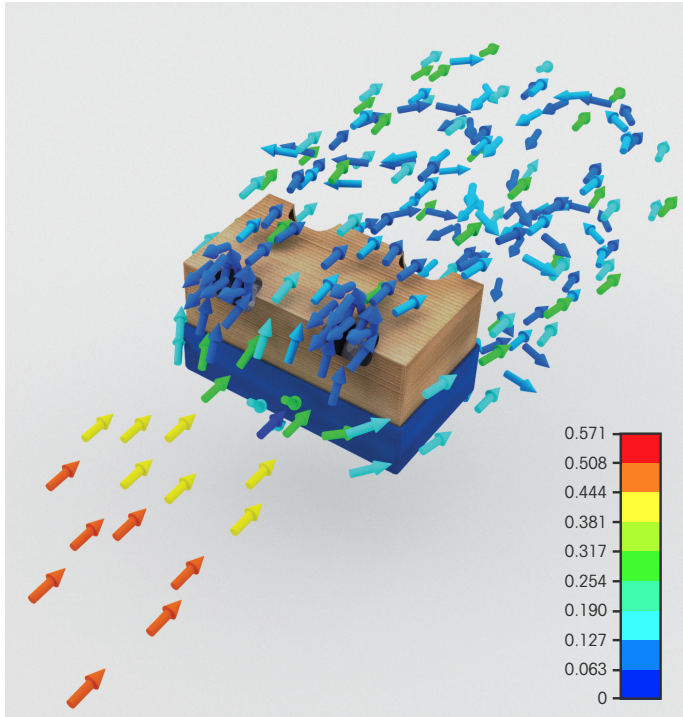
Whether it is measuring airflow of a product, airflow within a chamber or creating airflow for simulation of a moving vehicle, SuperTest has the tools and instruments to measure, log and precisely simulate any situation.



PERFORMANCE

SuperTest can measure refrigeration power, consumption and fuel usage in mobile applications in accordance to standards such as AS4982, AS3711.5, AS2853, AS/NZS3823.1.1 and SAE J639.

TESTING SERVICES



PRODUCT AND PACKAGING

SuperTest can determine the ability of foods and other products to maintain temperature in the cold chain across a variety of conditions. We also measure the effects of packaging, wrapping and stacking of specific products to maintain correct temperature in the cold chain.



CALIBRATION OF MONITORING EQUIPMENT

SuperTest utilises high quality Julabo temperature baths used for testing, calibrating and provision of annual certification for thermostats and temperature probes typically used in the cold chain. Annually maintaining your sensors ensures that your system is operating accurately at all times.



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SuperTest is part of the SuperCool Group of Companies based in Ormeau, Queensland, Australia and has been operating since 1981. Today, SuperCool engages in the sourcing, supply and manufacture of mobile, industrial and commercial air conditioning and refrigeration industries.

SuperCool Group's knowledge and experience, built over its long history, is used to improve industry standards for the benefit of humanity and the environment.

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