

Environmental Test Lab

Airconditioning, Heater and Airflow System Testing



Visteon European Testing Operations comprises a powerful climatic vehicle wind tunnel, a unique laser lab for airflow measurements and a large size climatic lab with modern test rigs. The facilities are located directly at the Kerpen motorway junction between Aachen and Cologne.

The environmental test lab provides state of the art test equipment for climate control systems and components for sophisticated development tasks of automotive and other industries.

The climate lab offers:

- classic air volume measurements,
- caloric measurements of heat exchangers and HVAC units, climatized shakers for NVH and durability testing and
- rigs for A/C component and system testing.

In addition we have a vehicle prototype workshop with an experienced team managing rebuilds and instrumentation for vehicle testing.



Visteon Corporations European Test Operations

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Environmental Test Lab

Climate and Thermal Management Systems and Component Testing



Vehicle Prototype Workshop

Prototype rebuilds – Instrumentation – Data-recording – OBD Integration – CAN – LIN – Show-cars – Functional Prototype cars – Dyno test preparation – Road Test Preparation

We prepare reliable test cars and functional prototypes and offer broad expertise in up-grading standard production cars for testing purposes. Your engineers get a valid tool for real life road testing to generate key result for system fine tuning and validation. The required data acquisition can be integrated in every vehicle including use of On-Board-Diagnostic (OBD), CAN, or LIN bus systems. We manufacture individual wiring looms for your special electronic applications.



HVAC Testing

EHAD – Refrigerant Compressor Test Rig – Compressor Durability – Refrigerant Loop Rig – R134a – R744 – A/C Systems – HVAC – HVAC Controllability – Heat exchanger Capacity – Caloric Measurements

Various test rigs for HVAC systems, refrigerant loops, A/C compressors and heat exchangers deliver precise data for development and design verification. Our rigs deliver the required fluids (water-glycol, R134a, R744, alternative refrigerants, humid air ...) just as specified in property and mass-flow. We can also run the components and systems under precise thermally controlled environments in our chamber rigs. This offers you the opportunity to test various thermal system components like heat exchangers, A/C systems and components, radiators, heat exchangers, ...



Shaker Testing

1 axis high frequency shaker – MINUS 40 TO PLUS 180 °C – HUMIDITY LOAD – DURABILITY TESTING – SHAKE AND BAKE – NVH-TESTING

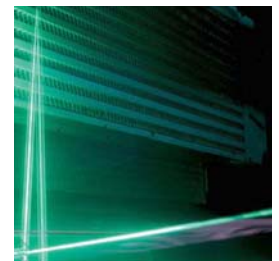
Vibration and durability testing for small components or functional systems can be tested in a humidity conditioned temperature range from -40 °C up to +180 °C.



Climatic Wind Tunnel

Engine Cooling – Engine Performance – Heater, A/C System Testing – Heat Protection – Cold Start and Drivability – HVAC Control Calibration – Fuel Consumption in Hot / Cold Environments – A/C Charge Determination – R134a, R744, Alternative Refrigerants – 4-Wheel Drive – Trailer Tow – Road Load Profiles – Mountain Drive

The sophisticated Climatic Wind Tunnel supports thermal vehicle testing in a wide range of climatic and road load conditions for "real life simulation" under well defined stable environmental conditions: Air velocity up to 225 km/h, air temperature from -40 to +55 °C, humidity, solar simulation, real daylight spectrum, 4-wheel dynamometer, up to 235 kW, separate climatic chamber



Air Flow Determination

Air Volume Flow Rates 4 to 200 l/s – Calibration of Air Flow Devices – LDA / PIV Laser Technology – Laser Light Sheet – Pressure Drop of Airflow Devices – Blower Characteristics

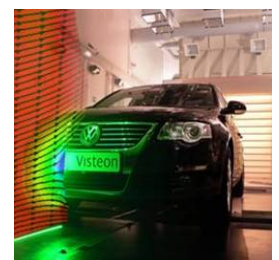
We measure air volume flow rates up to 200 l/s for blowers and many other flow devices. For detailed determination of air velocity on / in components like heat exchangers, HVAC systems, front end modules ... we use our unique laser technology with PIV and LDA methods.



Prototype Workshop

CNC Milling – CNC Turning – Prototype Parts – Stainless Steel– Aluminium – Plastics – Fully Automated Brace Furnace – Small Serious Prototype Productions

Precise prototype machining on 2 CNC controlled mills of stainless steel and aluminium parts as well as heat exchanger manufacturing are our main focus. Aluminium heat exchangers can be produced as individual single part or as small series production in our fully automated brace furnace with high quality.



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