

Climatic Wind Tunnel

4-wheel Dynamometer



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 sophisticated Climatic Wind Tunnel with a 4-wheel dyno supports vehicle testing in a wide range of thermal and road load conditions for "real life testing" under well defined stable environmental conditions. State-of-the-art technical equipment enables precise temperature stability during testing and allows fast changes of thermal conditions.

Climatic Wind Tunnel

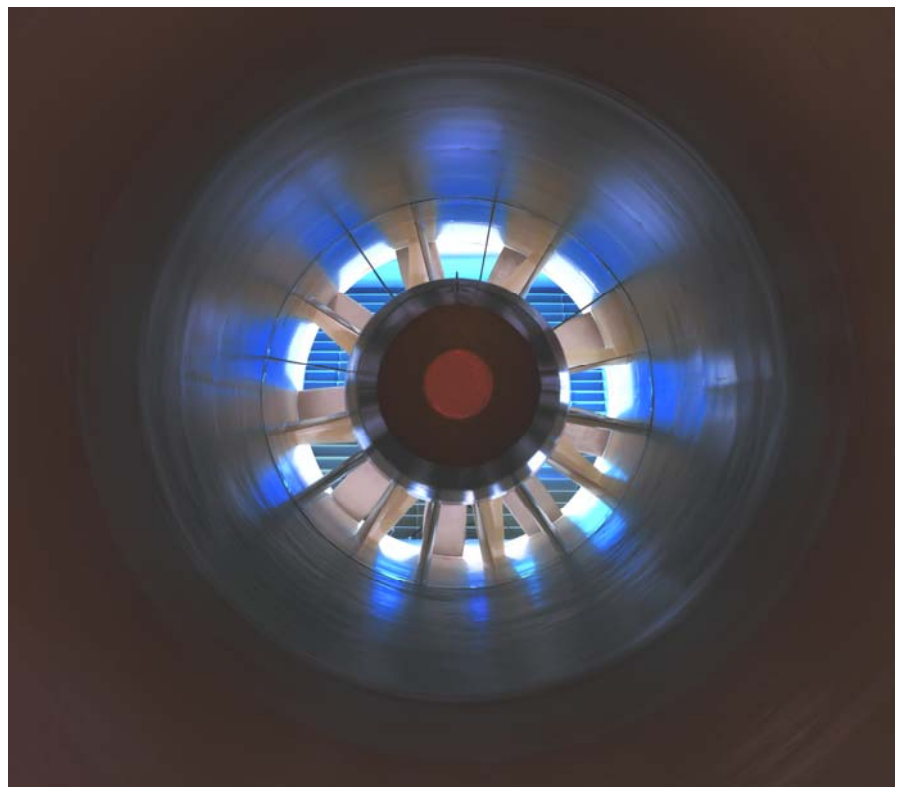
- Air velocity up to 225 km/h
- Executes tests in a temperature range from -40 to +55 °C
- Flexible solar simulation system enables reproduction of any worldwide sun conditions
- 4-wheel dynamometer with a unique adjustable wheelbase can absorb up to 235 kW

Climatic Chamber

- Static testing and function testing on a 2-wheel dynamometer
- Preconditioning of up to three cars
- Executes tests in a temperature range from -40 to +55 °C

Vehicle Instrumentation and Prototyping

- Instrumentation of vehicles for climatic wind tunnel testing and road testing
- Separate work spaces for enhanced confidentiality
- CAN bus interfaces



Visteon Corporations European Test Operations

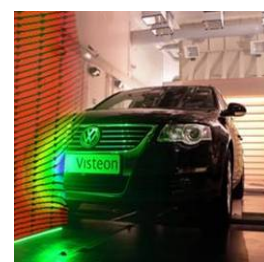
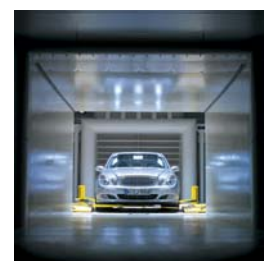
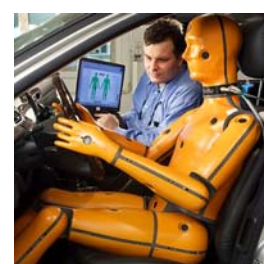
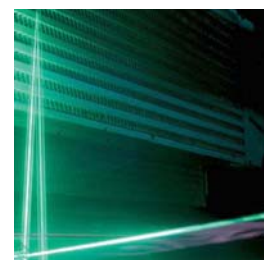
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Climatic Wind Tunnel

4-wheel Dynamometer Main Features



| Climatic Wind Tunnel | |
|--------------------------|---|
| Vehicle dimensions | 5.7 m * 2.4 m * 2.8 m (L x W x H max.) |
| Capacity | 1 Vehicle, passenger car up to light commercial vehicles |
| Air Velocity | 0 – 165 km/h (4.65 m ² nozzle) 0 – 200 km/h (3.00 m ² nozzle) 0 – 225 km/h (2.25 m ² nozzle) |
| Air Temperature | -40 to +55 °C |
| Air Humidity | 10 to 90% relative humidity |
| Data acquisition | 300-channel data acquisition |
| Solar Simulation | yes |
| Dynamometer | front rear |
| Driveline | Front- / Rear- / Four –Wheel Drive |
| Wheelbase | 1.8—3.8 m adjustable |
| Dyno max. speed | 250 km/h |
| Dyno Absorbtion | Front: 180 kW Rear: 235 kW |
| Power | 4-wheel: 235 kW |
| Roller diameter | Front 1219.2 mm (48") Rear 1600.2 mm (63") |
| Base Inertia | 1361 kg (13344,66 N) |
| Inertia Simulation Range | 454—6804 kg (4448.22—66723.32 N) |
| Max. Axle Load | 4536 kg (44482.22 N) |
| Manufacturer | Burke E. Porter Machinery Company |



Visteon Climatic Wind Tunnel Capabilities

Visteon's Climatic Wind Tunnel offers a comprehensive portfolio of innovative test capabilities. Together with highly skilled staff and efficient processes, flexible support is provided to customers in their development programmes and advanced technology projects. Visteon ensures independent and confidential operation through access controlled security areas.

Test Capabilities

- Front- / Rear- / Four– Wheel road load drive simulations
- Powertrain evaluation and analysis
- Engine cooling performance
- A/C system performance
- Heater system performance
- Standard and customised drive cycles
- Simulated day profiles of temperature, humidity, solar radiation and drive conditions
- and much more ...

Specifications and descriptions contained in this document were in effect at the time of publication. Visteon reserves the right to discontinue any equipment or change specification without notice and without incurring obligation.
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