

Emissions LABORATORY

DEVELOPMENT • DURABILITY • EMISSIONS • ECONOMY

- Modern, reliable, accurate engine test cells
- Complex vehicle preparation & results analysis
- Complete emissions capability
- Track & laboratory-based fuel economy
- Hybrid test, calibration & integration

Offering a breadth of expertise seldom available commercially, Millbrook can help solve the Powertrain challenges now facing engine developers and their specialist suppliers.

The Millbrook Vehicle Emissions Laboratory is acknowledged as a class leader. Equipped with the latest generation analytical system and computer software that is both recognised world-wide and backed up by continual updates, our laboratory team can produce repeatable, traceable test results to any legislative requirements or customised test cycle.

Complimenting Millbrook's already impressive array of emissions testing facilities, our VTSLED is built to meet the latest European and simulate the EPA and CARB requirements of diurnal evaporative emissions tests.

Technical SPECIFICATIONS

Emissions Laboratories

- 48" single roll DC electric dynamometer
- MRW 60kW heated DC electric dynamometer
- Schenck water brake dynamometer (for power test)
- Temperature and humidity controlled test environment
- Computer controlled clean air HVAC system
- Speed tracking cooling fan

Analytical Systems

- Custom built to accommodate a wide variety of vehicles
- Raw engine out & tailpipe real time modal analysis, CO₂ tracer, % EGR and bag
- TEOM real time particulate analysis system
- ELPI real time modal particulate size (10 micron down to 0.03 micron in 12 sizes) and mass distribution analysis system
- Fourier Transform Infra-Red analysis of a range of compounds including second-by-second NO_x species
- PMP number measurement

Technical SPECIFICATIONS

Gas Handling

- Dual bulkstream Critical Flow Venturi; Constant Volume Sampler
- Separate diesel and petrol bulkstreams with separate sample capture systems
- Diesel particulate system

Emission Durability Testing

- Fully developed and correlated schedules to Federal and European requirements

Test Capabilities

- All world-wide test cycles available with the additional capability to create custom cycles for individual clients
- Analysis for all cycles for raw, dilute, CO2 tracer, catalyst efficiency, %EGR, bag

Evaporative Loss Chamber

- Hermetically sealed 6m x 3m x 2.5m high stainless steel test chamber
- The Variable Temperature Sealed Housing for Evaporative Determination (VTSBED) is built to meet EPA, CARB and European Stage 3 requirements of 1, 2 or 3 day diurnal evaporative emissions tests
- Enclosure programmed air temperature held within +/- 1°C throughout test
- Chamber pressure compensation system holds to within +25Pa / -15Pa of ambient when heating and within +15Pa / -25Pa when cooling

Millbrook OVERVIEW

Millbrook is one of Europe's leading locations for the development and demonstration of every type of land vehicle, from motorcycles and passenger cars to heavy commercial, military and off-road vehicles. Located at the geographical centre of the UK automotive and fuels industry and situated centrally in the strategic Oxford to Cambridge Arc just 65 kilometres to the north of London, our custom-built facility provides virtually every test, validation and homologation service necessary for today's demanding programmes, complemented by a worldwide reputation for confidentiality, service and competitiveness.

Although significant work has been done commercially on behalf of many research organisations, Millbrook has always focused on real world applications and understand the constraints, limitations and budgetary controls that affect our customers. Our staff have experience and expertise from backgrounds in test work within vehicle manufacturers' engineering departments, so they know what their customers expect from a test. Putting working relationships first, and seeing things from the customer's point of view, means Millbrook's support will survive the test of time.