

Technical Center:

AARTC – Amrita Automotive Research & technology Center

AARTC – Is a joint venture between Automotive Test Systems and Amrita Vishwa Vidhya Peetam, Ettimadai, Coimbatore. Established in January 2015. The AARTC is equipped with different state of the art test labs for Power Train testing, Chassis Dyno Lab, Vehicle Evaluation lab, Simulation, NVH, RLDA Labs.

AARTC is emerging as a development center for testing the internal combustion engines, conventional, vehicle drive systems, and a major supplier of advanced testing and instrumentation products and services to all OEMs in India.

Under the Umbrella of AARTC, the following Engineering Services are being offered:

- Vehicle Performance & handling.
- Road Load Data acquisition
- NVH
- Engine, Power train & Emission Testing

A large pool of experienced engineers and project managers are involved with ATS engineering services. We are able to provide technical assistance and undertake measurement projects on various topics including

In addition to our local expertise, we are associated with various International experts and companies who support us in high end research projects in various fields on our panel.

POWER TRAIN LAB

AARTC Powertrain lab is well advanced in the testing methodologies for the developmental testing of the Diesel & Gasoline engines with contrary requirements in various ways. We also support the entire development process with the dedicated engineering services including advanced application and calibration tools. Synchronously, we focus on customer-specific, high-quality involving engine testing solutions for our customers.

Performance Trials of IC Engines both Diesel & gasoline engines

- Engine Up-gradation
- Fuel economy Measurements
- NVH measurements
- Friction Audit Tests
- HOT & COLD Cycle with Thermal shock testing.
- Durability Tests
- Performance & Emission Trials.

AARTC - Facilities:

- 6 Engine Test Labs – from 50 Kw to 500Kw.
- Transient Engine Dynamometer with Vehicle Simulation – 160 Kw, 360Nm & 10000 RPM
- Eddy current Dynamometer – of 80 Kw, 147 & 500 Kw Capacity.
- Thermal Shock test rig – for Hot & Cold Trials.

The Test Cells are Equipped with Conditioning Systems such as:

- Intake Air Conditioning system
- Fuel Conditioning
- Oil Conditioning
- Coolant Conditioning
- Exhaust Back Pressure
- Inter Cooler
- High Speed Data Acquisition systems from imc Germany - Temp, Pressure etc.
- Combustion Analyser – Cylinder Pressure & crank Angle encoder.



State of the art Emission systems:

- **HFR 500 – Fast Response Heated FID Analyser**
- With Response time of T10-T90 = 0.9 ms.
- Dual Channel Measurement
- Measuring Range- 0-2000 to 0- 10, 00,000ppmC1
- Can be interfaced with any of the Automation system
- Simple & User friendly to operate.
- Stroke/stroke & Cycle/cycle Measurement.

Applications Such as:

- Cold Start Measurement
- GDI Calibration
- In Cylinder Residual Gas Measurements
- Catalytic Converter Efficiency etc.



Nanoparticle counting & Classification: Nanomet3

- Nanoparticle Number & Size Measurement system
- Works on Electrical Diffusion Principle.
- PMP compliant Thermo Dilution
- Average Particle Diameter
- Calculated Particle Mass.
- Particle Size – 10 – 700nm
- Ideal for Engine test bed, CVS & Real time Measurement



