

STT Emtec Engine Laboratory



Engine Laboratories

STT Emtec has state of the art engine laboratories, with access to advanced test equipment for measurement of engine and exhaust emission related data.

STT Emtec has three engine test cells and capacity to test engines rated up to 660 kW.

One transient test cell for heavy duty diesel engines equipped with full flow CVS system and emission analysers.

One steady state test cell for medium duty engines equipped with emission analysers.

One steady state test cell for light to medium duty engines.

STT Emtec has the capability to perform all relevant European and USA legislated emission dynamometer tests on diesel engines.

STT Emtec is certified according to ISO 9001 and the laboratory is accredited by SWEDAC according to ISO 17025.

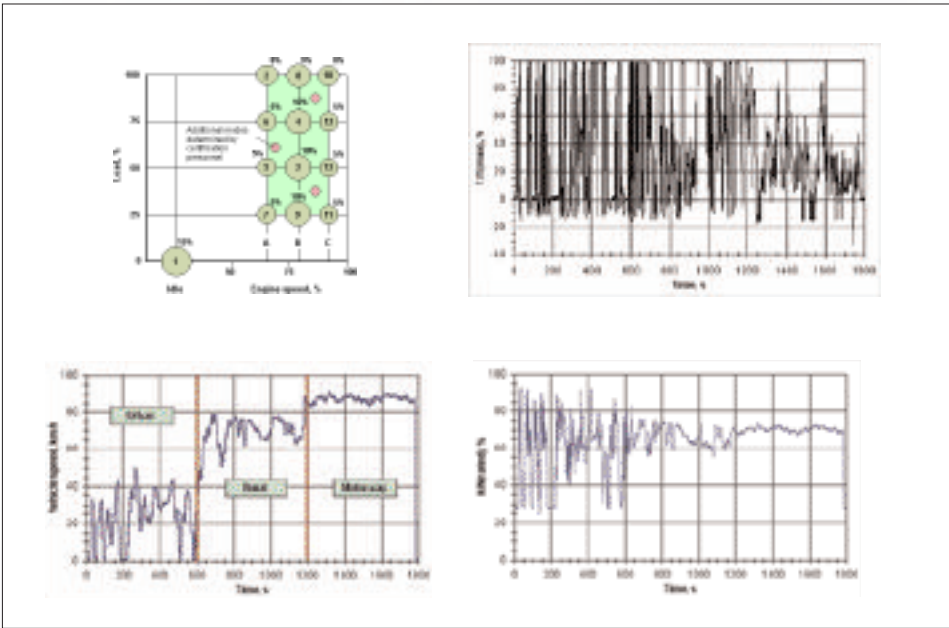
The R&D division is a part of STT Emtec AB and consists of a homogeneous highly educated group of people, dedicated to engine development and with a large competence in the area of internal combustion engines and its related systems.

STT Emtec has in house mechanical and electronic design departments and access to fast prototype production.

STT Emtec assists on a consultant basis in development projects in the area of engines, engine systems and sub systems. Large as well as small projects.

STT Emtec has references from several of the leading engine manufacturers in the world.

All work is performed in guarded and secure facilities to ensure the customers integrity.



**Heavy Duty Transient:
AVL test system equipped with following measurement and control modules.**

DYNAMOMETER: FOR HEAVY DUTY DIESEL ENGINES

- » A/C, Speed and torque control.
 - 0 – 660 kW from 1500 – 3500 RPM
 - 0 – 4400 Nm from 0 – 1500 RPM

DATA SAMPLING EQUIPMENT

- » Recorder 128 channels with sampling frequency up to 100 Hz.
- » 32 input channels for temperature, voltage, resistance and current measurements.
- » 16 input channels for pressure measurement.
- » 4 input channels for speed and frequency measurement.
- » 16 digital inputs and 16 digital outputs for processing digital control signals.
- » 4 analogue outputs for demand value setting from the automation system.
- » Dynamic fuel meter.
- » Air mass flow meter.

EMISSION MEASUREMENT EQUIPMENT

- » AVL emission bench for raw exhaust measurements.
- » AVL emission bench for diluted exhaust measurements.
- » Full flow CVS 20-140 m³/min, with particulate measurement and bag sampler.
- » Diesel exhaust smoke Measurement.

AVAILABLE AUTOMATED TESTS

- » European heavy-duty test in accordance with ETC, ESC, ELR, R49 & ISO 8178.
US heavy-duty test in accordance with US-transient & US-smoke.
Custom made test cycles defined by customer.



Medium Duty: AVL test system equipped with following measurement and control modules.

DYNAMOMETER: FOR MEDIUM DUTY ENGINES

- » Eddy-current, Speed and torque control.
0 – 500 kW from 2500 – 8000 RPM
0 – 2000 Nm from 1250 – 2400 RPM

DATA SAMPLING EQUIPMENT

- » Recorder 32 channels with sampling frequency up to 100 Hz.
- » 32 input channels for temperature, voltage, resistance and current measurements.
- » 16 input channels for pressure measurement.
- » 4 input channels for speed and frequency measurement.
- » 16 digital inputs and 16 digital outputs for processing digital control signals.
- » 4 analogue outputs for demand value setting from the automation system.
- » Dynamic fuel meter.
- » Air mass flow meter.

EMISSION MEASUREMENT EQUIPMENT

- » AVL emission bench for raw exhaust measurements.
- » Diesel exhaust smoke measurement.

AVAILABLE AUTOMATED TESTS

- » European heavy-duty test in accordance with ESC, R49, ISO 8178 etc.
- » Custom made test cycles defined by customer. (Steady state and ramp)



Light Duty:

AVL test system equipped with following measurement and control modules.

DYNAMOMETER: FOR LIGHT TO MEDIUM DUTY ENGINES

- » Eddy-current, Speed and torque control.
 - 0 – 350 kW from 2200 – 10000 RPM
 - 0 – 1500 Nm from 1600 – 2200 RPM

DATA SAMPLING EQUIPMENT

- » 15 input channels for temperature, voltage, resistance and current measurements.
(Sampling frequency up to 800 Hz)
- » 15 input channels for pressure measurement.
(Sampling frequency up to 800 Hz)
- » 11 input channels for speed and frequency measurement.
- » 8 input channels for high speed measurements.
(Sampling frequency up to 50 kHz)
- » 2 analogue outputs for demand value setting.
- » 20 switched outputs for demand value setting from the automation system.
- » Dynamic fuel meter.
- » Air mass flow meter.

EMISSION MEASUREMENT EQUIPMENT

- » Diesel exhaust smoke measurement.

STT Emtec in brief

STT Emtec is a fast growing technology company with more than twenty years of experience from the automotive industry. The company operates in the two business areas Emission Systems and Engine Systems. Being an engineering-driven company, both business areas base their operations on STT Emtec's own research and development resources.

Emission Systems focuses on products designed to reduce emissions from primarily heavy-duty diesel-engine vehicles. The own developed DNO_x[®] system reduces all regulated diesel-engine exhaust emissions.

Engine Systems develops, manufactures and markets high-performance systems for Mitsubishi 4WD vehicles, among others.

The company has development, production and sales in Sweden, a subsidiary in New Jersey, USA and a sales office in England.

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