



# CHASSIS DYNAMOMETER

## Description

CSA Group Leyland's chassis dynamometer enables vehicle driveline and cooling tests to be completed in a controlled, repeatable environment. A combination of high ambient temperature, solar loading and cooling air flow (with ram air fan) onto the radiator replicates vehicle operating conditions. Single rollers are connected to a 250kW eddy current dynamometer to absorb engine load. The room is designed to accommodate a wide range of vehicles up to and including large trucks and buses. This is complimented with infrared solar load banks delivering up to 1000 W/m<sup>2</sup> over the complete vehicle.

## Typical Applications

- Measurement of Limiting Ambient Temp (LAT) for cooling system / engine supplier installation sign-off
- Characterisation of interior temperatures, air conditioning performance, influence of solar load and heat soak
- Engine cooling investigation and development, including correlation with CFD analysis
- Emissions and fuel consumption tests
- Exhaust pulsation pre-conditioning
- Exhaust system hot resonance test / thermal fatigue tests as a vehicle

## Specification

<b>Entrance Door:</b>	4m (high) x 3.6m (wide)
<b>Working Area:</b>	12m x 3.7m x 4m
<b>Solar Load:</b>	1000 W/m <sup>2</sup>
<b>Temperature:</b>	Ambient to 45°C
<b>Rotational Inertia:</b>	2400 Kg·m <sup>2</sup>
<b>Power Absorption:</b>	250 kW (50-120km/h)
<b>Tractive Effort:</b>	15 kN
<b>Max Axle Load:</b>	26 tonnes
<b>Data Acquisition:</b>	Multi-channel capability Inc. CAN data speed sensors / thermocouples / flowmeters / pulsation equipment / tractive effort & road speed