

ADVANCED THERMAL CHARACTERISATION AND VALIDATION OF DRIVETRAIN SYSTEMS & COMPONENTS



Location: FlandersMake@UGent

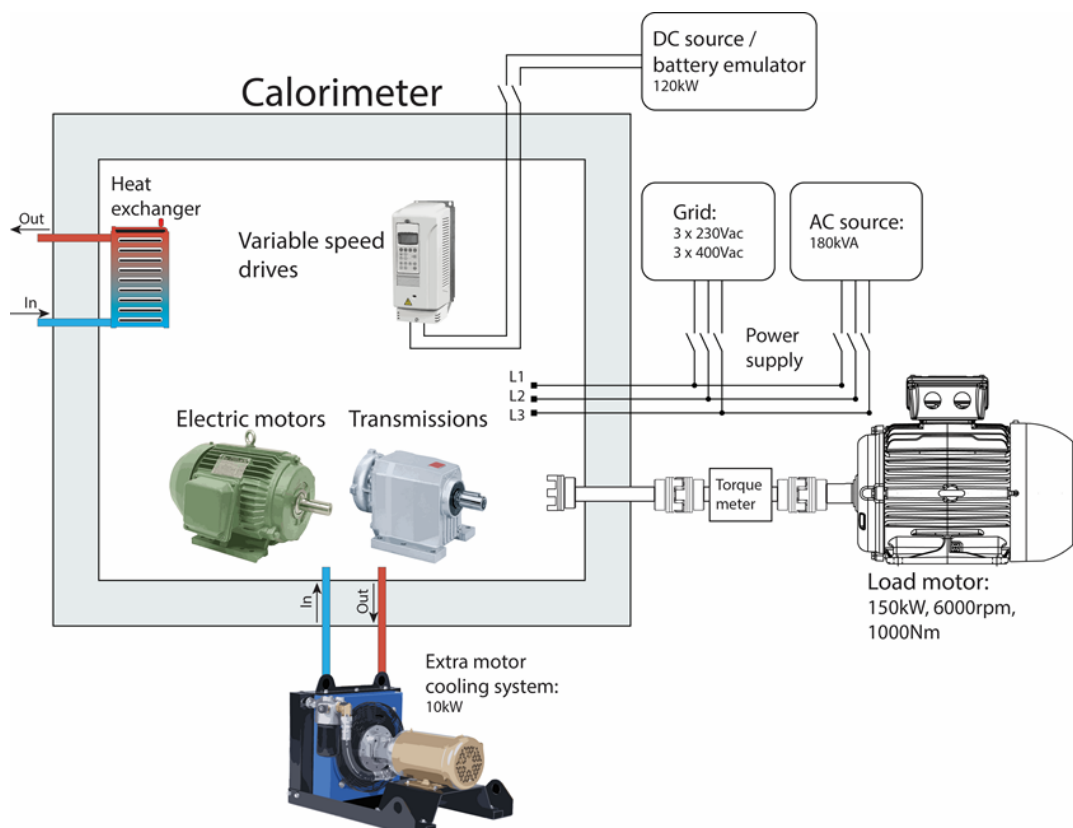
DESCRIPTION

With this setup you can built-up and/or validate detailed power loss models for drivetrain components and systems. In the calorimeter you can measure power losses with very high accuracy (< 1%) and even determine overall efficiency for repetitive dynamic motion profiles. With the high-speed thermal camera (also available for rental) you can identify fast rotating hotspots, analyze thermal component interaction, cross-check calculated system temperature distribution and validate IR sensors.

This flexible setup can handle many combinations of electric machines, transmissions and power electronics in realistic test conditions due to extended available power sources, cooling methods, sensors and load emulators.

TECHNICAL SPECIFICATIONS

- Specifically designed for drivetrain testing
- DUT max test sizes: 1,3m x 1,0m x 1,8m
- Programmable bi-directional DC power source 240 kW for battery load emulation
- Load motor 160 kW, 6000 rpm max, 1000 Nm for ICE, wind, driving cycle emulation, ...
- Power sources:
 - Mains power: 3x230VAC and 3x400VAC (max. 400A)
 - Variable programmable AC power source: 3x0-465V / 180 kVA
 - 4 quadrants variable DC power source: 30-800VDC / 240 kW / 400A
- DUT power loss measurement up to 20 kW with accuracy of <1%
- Various DUT cooling methods: water-glycol -20 °C up to 80°C, oil, air
- Elevated temperature testing possible
- High-end high-speed thermal camera with frame rate of 233 Hz, -40 °C up to 1200°C



DRIVETRAIN TESTING



OUR OFFER

We offer the test rig to build-up and/or validate detailed power loss models for drivetrain components and systems.

INTERESTED?

Contact contact_EEDTMP@flandersmake.be for more information.