



➤ An aircraft's electrical system and generator behaviour are essential; they condition operability and even safety. This implies that when carrying out ground-based behavioural studies, it is necessary to have bench testing with the generators driven at correct turbine speed and the corresponding electrical system with the possibility of commuting loads under all possible conditions. S.A. Sistel's experience in designing special drives and process control techniques makes it the preferred supplier for this type of equipment.

➤ The nature of the generator drive set bench ensures testing all the electrical system of the aircraft, starting electrical energy generation of the alternators located in each of the turbines. The electrical charges are programmable, not only for the absorbed current but also for Phi cosine (resistive, inductive or capacitive) and are transmitted to a programme so as to carry out behavioural analysis under all possible conditions.

The drive axle simulates the turbine with alternating current motors driven by a frequency inverter and equipped with multipliers that have an output axle at 25,000 rpm, with the floating output axle turning on a lubricated and refrigerated bearing where pressure and temperature are controlled through CAN bus. Heat is dispersed by using a forced air/oil interchange placed outside the laboratory. The procedure is carried out monitoring all operability parameters, paying special attention to the pressure and temperature maintained by the drive bearings. The complete system is controlled by distributed I/O, connected via fieldbus to the Registry Management and Testing Computer.

The load benches are configured to emulate all possible working conditions and even failure, freely selected current and phase difference conditions through the fieldbus, according to test operation conditions.

The test bench has two objectives: generator characterisation along with aircraft electrical system components, and enabling the reproduction of any type of condition that could provoke a potential incident throughout its working life.

