

Overflow Test Benches for Aircraft Fuel Tanks

Save time and cut costs in aircraft production by validating the correct performance of fuel tanks before final assembly.



The fuel tank is one of the most critical components of any aircraft, and ensuring its correct performance is vital both for the functionality of the plane and the safety of its passengers.

Various compliance tests must therefore be passed for aircraft and their fuel tanks to be certified for the air, but issues are not usually discovered until final assembly, when the fuel tank can be assessed as an integrated component of the aircraft. Repairing issues at this stage is much more complex, and requires taking the aircraft apart again, a timely and costly process that only extends its time to market.

NEXT-GENERATION FUEL TANK TEST EQUIPMENT

Our Overflow test bench is the ideal turnkey solution, allowing aircraft manufacturers to efficiently test fuel tanks before final assembly takes place. Streamlining the whole process, it allows any defects or issues to be detected early on so they can be eradicated before all of the plane's parts are installed.

The test bench fills the aircraft fuel tank at an operational flow rate and safely validates the correct performance of the vent line while accurately monitoring the pressure inside the tank. The rate at which the fuel is supplied is monitored throughout the test and can also be adjusted — at any flow rate between 400 and 1,300 litres per minute.

Thanks to the simultaneous monitoring of the pressure and flow data, any malfunction of the vent lines and subsequent excessive pressure can be instantaneously detected and the system quickly stopped. This ensures safe testing with no risk of damage to the component, even if malfunctioning.

ADAPTABLE TO YOUR SPECIFIC NEEDS

At Applus+ Laboratories we take pride in offering turnkey solutions and will be more than happy to adjust the test bench to your individual needs. Amongst other possible adjustments, we can increase the uplift volume for larger tanks, adjust the pressure set values, or adapt the machine for use with Jet A1 fuel instead of ShellSol D100, aligning with ATEX safety requirements.