

Project: Aircraft Wing Manufacturing Facility

Client: Confidential

Industry: Aeronautic

Scope: Design; Manufacture; Install & Commission Automated Wing Leak Testing Facility

Project Key Notes:

Turnkey Project

Safety Critical

Touch Screen Control

Digital Network

Automation in Gas Control Soaring to New Heights

Our Client was looking to transform a process. Performing a gaseous leak test on a multi-million pound aircraft wing has inherent risks. By introducing a high degree of automation, these risks could be reduced and productivity greatly improved.

CFS worked closely with the client to develop the automated testing concept and generate detailed mechanical and E&I specifications.

Test gas is housed in a gas store adjacent to the facility, where two cylinder packs provide continuous gas supply via an auto-changeover system. The test gas is controlled and mixed with Compressed Air in the Gas Control System and is stored in a receiver. The mixed gas can be distributed to four service hatches under each wing. A safety manometer monitors wing pressures and “bow-out” of the support beam.

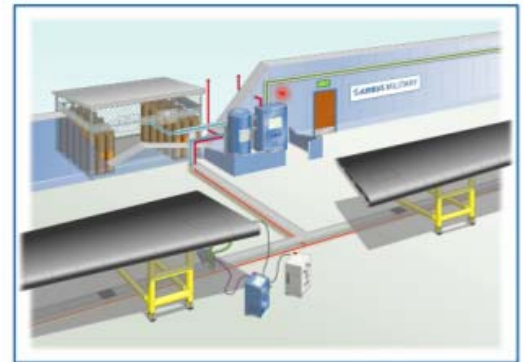
The testing process and mixing of the gases is controlled via a touch screen located on the Gas control System. A remote station with touch screen is located next to the wing under test. This allows the operator localised control of the process via a digital network.

The gas equipment was manufactured at the Viking Way works.

This facility provided the most suitable testing infrastructure and allowed a large receiver to be pressurised during the Factory Acceptance Test (FAT) to simulate the volume of a wing fuel tank.

The project team installed over 100m of aluminium and stainless steel pipework throughout for facility, erected the gas store and installed the gas equipment.

After a full Site Acceptance and Functional Test, CFS successfully commissioned the leak test facility and provided operator training.



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