ACM air circulator test system is mainly used to test ACM performance under no-load and different air pressure. The main test contents include external leak test, functional test and electrical connection test, which can measure ACM speed and test of inlet and outlet air pressure, temperature, rotating shaft vibration peak value and shaft vibration when no load.

The ACM test system consists of three parts: the main body of the test system, the UUT suspension and moving frame, and the computer console. The main body of the test system mainly provides high-pressure clean air source after cooling and throttling treatment for the tested ACM, including the fan test module. The UUT suspension mobile frame provides the fixed tooling for the ACM under test and the piping required for gas introduction and extraction. And the computer console completes the comprehensive processing of sensor data acquisition, remote operation control, real-time monitoring of test results and printout and other tasks. At present, the ACM test system developed by Chengdu RuiNeng technology Company can test the air circulation machines of the following aircraft :MA700, A320, A330, B737, B747, B777 and B787.

Main performance index of the test system

- It can offer a torque loading and testing tool, which offers a torque display of 0.5 to 6 N.m;
- It can measure the rotational speed, ranging from 0 to 100000 r/min;
- It can detects the pressure and temperature of each ACM interface;
- It can provides high air flow measurement, ranging from 500 to 10,000 kg/h;

- It can provides low air flow measurement, ranging from 0.2 to 4lb/min;
- It can measure shaft vibrations of turbines and fans, vibration range: 0 ~ 0.25mm, vibration acceleration 10G.