

King Nutronics Model 3719 Air Data Test Set

By
King Nutronics Corporation
6421 Independence Avenue
Woodland Hills, CA 91367-2608, USA



Figure 1. King Nutronics Model 3719 Air Data Test Set

King Nutronics Corporation has been a key supplier of calibration and test equipment to the government and commercial users for over 40 years. For high-precision pressure calibrators and test sets, King Nutronics relies on the Paroscientific Digiquartz® Sensors to meet the most stringent performance requirements.

The new King Nutronics Model 3719 Air Data Test Set (ADTS) is a RSVM compliant, pitot/static simulator and calibrator for aircraft avionics instruments and lower-level maintenance shop test equipment. The decision to incorporate Digiquartz® Transducers into the 3719 Air Data Test Set was based on two decades of success with our earlier Model 3682 and 3688-A Air Data Calibrators as well as the need to maintain high accuracy over a broad range of environmental conditions. Extreme humidity and temperature variations are particularly prevalent on the flight line, aboard aircraft carriers or inside aircraft hangers.

Some air data test sets use the vibrating cylinder type of pressure transducers that are sensitive to the density of the pressure media and therefore affected by humidity and temperature conditions. They require humidity sensors to correct for the large, out-of-specification, humidity and temperature errors. These humidity sensors often need servicing or replacement to maintain the system accuracy. King Nutronics avoids these problems by using Paroscientific Transducers in all of our Air Data Test Sets. The Digiquartz® Transducers are not density sensitive and maintain their accuracy over broad ranges of temperature and humidity. Performance and reliability are significantly improved together with reduced costs of ownership.

The Model 3719 design uses precision micro-controllers to simulate conditions of flight for avionics testing. It also provides highly accurate pressure and vacuum settings to calibrate lab or maintenance test equipment using the same micro-controlled pressure and vacuum system. It is easy to use and requires only minimal operator control and input sources of power/vacuum/pressure. Two Digiquartz® Transducers are used for the Static Pressure, (Ps), and Pitot Pressure, (Pt), inputs to the King Nutronics ADTS. Accuracy is better than +/- 0.002 in. Hg throughout the full range to 110 in. Hg (+/- 0.0018%). Ps and Pt control are better than +/- 0.02% IV and airspeed control to within +/- 1 knot. This performance is maintained over difficult environmental conditions with exceptional reliability and long term stability.

The King Nutronics Quality Control Program complies with the applicable requirements of MIL-STD-45662A, MIL-I-45208A, ISO 9003, ISO 10012 and ANSI/NCSL Z540. Primary pressure standards are traceable to NIST and periodically calibrated by the Navy Gage and Standards Lab. King Nutronics is proud to meet the needs of the calibration and test marketplace with our newest Digiquartz® equipped Model 3719 ADTS.

Author: This article was submitted by King Nutronics Corporation
[King Nutronics Corporation](#)
6421 Independence Avenue
Woodland Hills, CA 91367-2608, USA
Tel: (818) 887-5460