

DPS1000 Digital Pitot Static Test Set

Thanks to over 65 years of expertise and highly qualified engineers and technicians, Barfield has developed a new product category called the Imperium series. Imperium, a Latin word which in a broad sense, translates as 'power to command' represents new Barfield products containing a pressure controller or automated testing features. The newest product being introduced is the fully automated DPS1000 which replaces the successful DPS350 as our entry level RVSM compliant flight line air data test set.



The DPS1000 performs altimeter and static systems tests and inspections. Critical components used in the DPS1000 have a well established history of proven flight line reliability & accuracy - including case, pumps, valves, and static/altitude transducers. Barfield introduces an innovative option to the DPS1000, wireless communication for display and control using the latest Wi-Fi technology.

DPS1000 features include:

- High accuracy - RVSM compliant
- Fully automatic control
- 7" Color Graphic Touch Screen
 - LCD sunlight readable
 - Usable with gloves in cold climate
 - Versatility to update user interfaces & features
- Go to ground function
- Auto leak test custom profiles
- Programmable limit protections
- Altitude correction
- Altitude compensation for leak testing
- Durable wheels & extendable handle on case
- Limited 2 Year Warranty

Benefits of DPS1000:

- Proven accurate and stable transducer technology
- Cost effective
- User friendly interface
- Customer testing efficiency increased
- Product durability/reliability
- Flexible features and design updates



DPS1000 - Digital Pitot Static Test Set



Accuracy (Preliminary)

Accuracy	
MACH	Better than 0.005
EPR	Better than 0.005
ROC	± 2% of Value
Ps Sensor	± 0.0030 InHg
Qc Sensor	± 0.10 % Reading

Altitude (ft)	Accuracy
-1800	±3 ft
10k	±4 ft
20k	±6 ft
30k	±7 ft
40k	±12 ft
50k	±19 ft
55k	±23 ft

Airspeed (kts)	Accuracy
25	±2.0 kts
50	±0.5 kts
100	±0.5 kts
200	±0.3 kts
500	±0.1 kts
650	±0.1 kts

Specifications

Stability (Calibration)

Drift per 12 Months
0.01% of Range/Year (Max)

Temperature Range

Calibrated: 0°C to +50°C
Operational: 0°C to +50°C
Storage: -25°C to +70°C

Humidity

0-95% Non-Condensing

Dimensions

	in.	cm.
Height:	14.8	37.6
Width:	22.2	56.4
Depth:	9.0	22.9

	lbs.	kg.
Weight:	33	15

AC Power Requirements

85-264 VAC; 50-60 Hz
Auto selection; 200VA

Ps, Pneumatic Capacity (6000 ft/min)

125 cu. in. 2 Liters

Pt, Pneumatic Capacity (300 ft/min)

75 cu. in. 1.3 Liters

Key Facts

- Worldwide availability of products through distributors in different regions of the world
- ISO 9001:2000 and AS 9100-C Quality Standard
- Barfield manufactured products calibrated to NIST standards
- Barfield's DFQ40K fuel quantity test set was the first of the Imperium series released in 2010

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Digital Pitot Static Test Set

ADTS206

The ADTS206 is a rugged, lightweight three-channel air data test set. Designed with the accuracy and versatility required for fast and efficient flightline ground support, catering for three port 'smart probes' as well as two port pitot statics on all civil aircraft.

The safety of aircraft systems during testing is paramount at all times and the design of the ADTS206 makes no concessions against quality, reliability, and accuracy. The ADTS206 incorporates all the best performance and protection features that are valued by users of Barfield air data test sets throughout the aviation industry. Use of the latest robust display and touch screen technologies provides unparalleled clarity and simplicity of use for both first time and experienced air data test set operators.

The sophisticated yet user friendly display is fully programmable for a range of test requirements. It can be configured, with limits and referred units of measurement, for individual aircraft types. Numeric data from the operator is not necessary once programmed, making even complex or extended test procedures a simple error free operation. The level of information displayed can be determined by the operator to clarify expected responses or actions at any test point

In addition to the standard pitot-static functions of the ADTS206, there are many additional advanced features that include: automatic go-to-ground, leak test mode and device under test protection amongst others. This enables the operator to undertake flightline testing accurately and efficiently, without compromising safety standards.



Features

- > Three independent pressure control channels for altitude, airspeed and angle of attack
- > Includes advanced hand terminal
- > High accuracy resonant silicon sensors on all channels, RVSM compliant
- > Simple user interface, high visibility colour display, touch screen input
- > Compact and lightweight for quick and easy portability.
- > Meets .0030 inHg accuracy on static channel

ADTS206 Dimensions

	in.	cm.
Height	15.4	39.1
Width	15.7	40
Depth	21.7	55
	lbs.	kg
Weight	48.4	22

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Digital Pitot Static Test Set

DPS350

The Barfield DPS350 Air Data Tester is a microprocessorbased unit using the latest in transducer technology. The DPS350 operates similar to Barfield's 1811 series testers but the transducer technology used is virtually immune to the costly repairs generally experienced by analog instruments. Software containing a programmable protection limit feature has been incorporated into the DPS350 to insulate the aircraft instruments from damage caused by negative airspeed and over pressurization conditions. Limit protection is provided by computer actuated solenoid valves that safeguard aircraft altitude, airspeed, rate of climb/decent and mach instruments. The high accuracy and a stability (see Air Data Specifications for details) exhibited by the transducers qualifies the DPS350 for use on aircraft being certified for Reduced Vertical Separation Minimum (RVSM) operation and increases the calibration interval from 30 days to once a year. The simple menu driven digital display calculates and displays Altitude, Vertical Speed, Airspeed, EPR and other measurements in various units of measure, including: Ft, M, Kts, Km/hr, Mach, Ft/min, M/min, EPR (Pt/Ps), inHg, mb, and psia. The tester also includes internal pumps that can produce a pressure and vacuum suitable for simulating 55K Ft, 650 Knots, and 6000 Ft/min conditions in wide body aircraft.



Features

- > Transducer Technology provides the highest accuracy and best longterm stability available for line maintenance equipment
- > Menu-driven operator interface provides protection of instruments under test with programmable limits on the following parameters:
 - Altitude (feet or meters)
 - Airspeed (knots or km/hr)
 - Rate of Climb (ft/min or m/min)
 - Mach (mach)
- > Leak testing mode displays leak rates in ft/min, knots/min and metric equivalent units
- > Meets .0030 inHg accuracy on static channel

DPS350 Accessories

115-00443 Hose Kit (2 ea. - 25 Ft.) incl. Pitot Adapt.
115-00057 Pitot Tube Adapter Assy. (1/2" inner Dia.)
2423F Static Port Adapter Kit

B-QC4-B-4ANK5-ZN Static (Blue) Hose Quick Connector
B-QC4-B-4ANK2-ZN Pitot (Org.) Hose Quick Connector
B-QC4-D1-400-K5 Static (Blue) Panel Quick Connector
B-QC4-D1-400-K2 Pitot (Org.) Panel Quick Connector

DPS350 Dimensions

	In.	cm.
Height	9.76	24.8
Width	15.4	39.1
Depth	14.9	37.8
	lbs.	kg
Weight	35	15.9

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DPS450 Remote Hand Terminal

101-01185A

The Barfield 101-01185 remote hand terminal significantly enhances the operation of the Barfield DPS450 digital pitot static test set. The same front panel display and keypad interface as the DPS450 is used. This allows an operator to run test routines while seated in the aircraft cockpit. When connected, the hand terminal automatically becomes the user interface. The operator may display a message on the DPS450 indicating that full control is now via the remote hand terminal. The option to have the screen display on the DPS450 and 101-01185A simultaneously is also available thus reducing the possibilities of communication errors.

The 101-01185A remote hand terminal includes an interconnecting lead approximately 60 feet in length which connects directly to the DPS450 situated outside the aircraft.

The display of the remote hand terminal is protected by a polycarbonate window for impact resistance. The remote hand terminal's internal components are housed in an aluminum alloy casting, encapsulated by a shock absorbing silicon rubber boot. The adjustable wrist straps and molded finger grips ensure secure operator handling.



Features

- > Cockpit control reduces test time
- > Enables single operator testing
- > High accuracy - RVSM compliant system
- > Operates up to 60 feet from test set
- > Rugged ergonomic handheld design
- > Display & keypad interface equivalent to DPS450 front panel
- > Aluminium alloy casting with shock absorbing silicon rubber boot and polycarbonate screen protection.
- > Weatherproof for flightline use.

101-01185A Accessories

101-01198B Interconnecting lead, 60 feet (18 meter)

Backpack containing lead and pouch specifically to carry the 101-01185A.

101-01185A Dimensions

	in.	cm.
Height	8.3	21.1
Width	8.9	22.6
Depth	2.5	6.35
	lbs.	kg
Weight	3.3	1.5

Digital Pitot Static Test Set

DPS450

The new DPS450 completes an entire line of Barfield Digital Pitot-Static/Air Data testers. Designed to minimize aircraft downtime, the DPS450 is the newest and one of the lowest cost fully automated Air Data Testers meeting the high accuracy demands of Reduced Vertical Separation Minimum (RVSM) specifications on the market.

All functions of the tester are fully automatic and require no manual sequencing of valves or regulators. The DPS450 has fully automatic control by means of the menu-driven high contrast electroluminescent display and tactile membrane keypad. The automated controller automatically generates and continuously maintains the input altitude, airspeed or VSI values. The DPS450 precisely maintains the input value (Ps, PT, Airspeed, Alt, etc.) overcoming any pressure values caused by a leaky system. A precision sensor on the static channel provides high accuracy altitude measurement and simulation. This high accuracy and stability (see Air Data Specifications for details) qualifies the DPS450 for certifying aircraft for RVSM operation and increases the calibration interval from 30 days to once every year.

The sophisticated yet user friendly display is fully programmable for a range of test requirements. It can be configured, with limits and referred units of measurement, for individual aircraft types. The level of information displayed can be determined by the operator to suit the particular task at hand.

In addition to the standard pitot-static functions of the DPS450, there are many additional advanced features that include: automatic go-to-ground, leak test mode and device under test protection amongst others. This enables the operator to undertake flightline testing accurately and efficiently, without compromising safety standards.



Features

- > Fully automated unit
- > Optional handheld remote control
- > Database capable of saving the limit data of different aircraft and stored in a battery backed memory
- > GO TO GROUND feature automatically and safely depressurizes both systems to ambient pressure
- > Compact and lightweight for quick and easy portability.
- > Meets .0030 inHg accuracy on static channel

DPS450 Dimensions

	in.	cm.
Height	14.0	35.5
Width	20.5	52.0
Depth	10.4	26.5
	lbs.	kg
Weight	33	15

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Digital Pitot Static Test Set

DPS500

The DPS501 is a rack mountable Dual Channel Controller ideal for use as a transfer standard for calibration and certification of altimeters, airspeed ind., Air Data Computers, VSI and other Pitot-Static components or as an integral part of an Automatic Test Equipment (ATE) system.

The DPS500 Air Data Test Set (pictured) is a self-contained, transportable, fully automated, user programmable Pitot-Static tester housed in a military styled enclosure. The unit includes a DPS501 controller, a Pressure/Vacuum pump, and a remote hand-terminal permitting convenient operation from the cockpit.

The DPS500 flightline version and the DPS501 rack mount version are fully automated units capable of providing simulation, testing, and precision calibration of air data components on the flightline or in a certified repair shop. All functions of the testers are fully automatic and require no manual sequencing of valves or regulators. The DPS500/501 testers were developed to meet the aviation industry's increasing standards and the need for reducing maintenance costs. Precision sensors achieve high accuracy read-out and control of both altitude and airspeed parameters. The high accuracy and stability (see Air Data Specifications for details) of the unit qualifies the DPS500/501 for certifying aircraft for Reduced Vertical Separation Minimum (RVSM) operation and increases the calibration interval from 30 days to once every year.

An optional Test Program Manager interfaces the DPS500/501 with a PC/Notebook allowing the execution of procedures for carrying out tests such as FAR 43 Appendix E, FAR 91-411, RVSM or other user programmed test routines. These user-programmed tests are created in a PC based text editor using very simple commands. Test data is tabulated and can be printed for use in QC reports or instrument calibration records.



Features

- > Handheld remote control
- > Database capable of saving the limit data of up to thirty different aircraft and stored in a battery backed memory
- > GO TO GROUND feature automatically and safely depressurizes both systems to ambient pressure
- > Compatible with any Centronics standard parallel interface printer of 80 or 132-column width
- > PC programmable via RS 232 using optional Test Program Manager (TPM) software Kit
- > Available with an IEEE 488 Connector
- > Meets .0030 inHg accuracy on static channel

DPS500 Options & Accessories

101-01196 Test Program Manager Software
101-01199 Line Switching Unit – Controlled via DPS500

Option Description

- A. IEEE 488 For 1975 System Compatibility
- B. IEEE 488 for SCPI Protocol Version
- C. 28 VDC Operation
- E. High Airspeed 1000 Knots (Special)
- H. Altitude Encoder Option
 - I. ARINC 429 Option
- K. Man. Oper Ps/Pt Lid Mounted Manifold