Druck

PACE Tallis

The modern, portable calibrator for Pitot Static Testers

Druck's PACE Tallis is a portable, digital pressure transfer standard. The high-performance specification of PACE Tallis make it an ideal in-house calibrator of pitot static testers, such as Druck's ADTS 500 and 400 series or alternative manufacturers models.

Traditionally, ADTS calibration required the owner shipping the unit to a third-party calibration laboratory, often inducing a prolonged period of downtime.

PACE Tallis eliminates these limitations by offering a portable, high stability reference standard that can be used to calibrate any pitot static tester on-site.

A semi-automated calibration can be performed using a PACE Tallis with Druck's ADTS405 and latest ADTS5XX series pitot-static testers.

PACE Tallis

Key features & functionality

PACE Tallis offers a highly accurate digital pressure reference, leveraging the most accurate TERPS pressure sensor technology to deliver exceptional measurement precision.

The design of PACE Tallis reduces the maintenance burden, eliminating the need for traditional components such as pistons, mass sets, or regular cleaning, which simplifies ongoing operation and reduces downtime.

PACE Tallis is compact and portable, suitable for bench-top or panel-mount use, making it particularly well-suited for deployment in remote locations or areas with limited space. It also operates effectively across a wide temperature range, ensuring calibration stability even in environments subject to thermal variation.

PACE Tallis supports both automated and manual calibration modes streamlining the calibration process. Additionally, PACE Tallis supports RS232 connectivity and ethernet is also supported, it features an IEEE-488 SCPI interface, enabling seamless integration and full automation within calibration laboratories.

Key features & functionality

Accuracy & reliability

PACE Tallis is engineered to negate physical influences such as local gravity or media density, avoiding inaccuracies caused by environmental factors. The absence of traditional piston mechanisms eliminates errors resulting from piston contamination or improper mass handling, while its highly stable reference standard ensures users can trust their uncertainty budgets. Furthermore, PACE Tallis stands as the only portable calibrator capable of performing Druck ADTS calibrations, with any claims to the contrary being false and misleading.

Operational efficiency

PACE Tallis streamlines the calibration of ADTS units, allowing the entire process to be completed within an hour. This is a significant improvement compared to the turnaround times of several weeks typically required when sending equipment to external service laboratories. With on-site calibration, there is no longer a need to maintain duplicate ADTS units simply to cover downtime, and the rapid setup coupled with minimal training requirements helps ensure a swift and straightforward operation.

Durability & portability

The rugged construction of PACE Tallis minimises the risk of damage during transport, making it ideal for use in remote or challenging environments. Whether deployed for field service, mobile laboratories, or offshore facilities, PACE Tallis is built to withstand demanding conditions while maintaining its high performance and portability.

Cost of ownership advantages

- Minimal servicing - no piston cleaning, no mass set maintenance.
- Lower shipping costs due to eliminating offsite calibration.
- Compact footprint - reduced bench space requirements.
- No external pumps or bespoke test benches needed.

Applications

- Calibration of Druck's entire ADTS portfolio
- Calibration of any manufacturer's pitot-static tester
- Avionic instrumentation verification
- Aerospace maintenance & overhaul (MRO) facilities
- Production test environments
- Portable field calibration

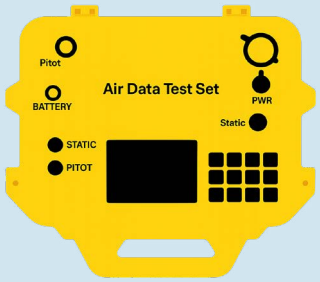
Conclusion

The application of PACE Tallis as a calibration solution for Druck's ADTS or any manufacturer's pitot-static tester provides improved accuracy, lower ownership cost, reduced downtime, and simplified workflows to MRO customers.

This modern calibration solution alternative gives operators a robust, maintenance free, and portable solution built on Druck's industry-leading pressure measurement expertise.

ADTS 405 MkII

ADTS 5XX Series



Other manufacturer's pitot static testers

PACE Tallis – Pitot Static Tester specification

Pressure measurement	
Tallis pressure ranges:	2 bara, 3.5 bara (See Tallis Datasheet for full list of pressure ranges available)
Over range indication:	10% above mbar/bar full scale pressure range.
Pressure media:	Not suitable for use with Oxygen or combustible gas Pressure ranges 8 bar and above compatible with Stainless Steel 316 and Hastelloy C 276 Absolute ranges 3500 mbar abs and below: Dry, oil free, non-corrosive gas or air.

Display	
Panel	¼ VGA wide format 4.3 inch colour graphics LCD c/w integral touch screen
Comms update rate	8 times per second
Display update rate readout	2 times per second ± 9999999
Pressure units	mbar, bar, Pa(N/m2), hPa, kPa, MPa, mmHg @ 0°C, cmHg @ 0°C, mHg @ 0°C,, inHg @ 0°C, mmH2O @ 4°C, cmH2O @ 4°C, mH2O @ 4°C, mmH2O @ 20°C, cmH2O @20°C, mH2O @ 20°C, kg/m2, kg/cm2, torr, atm, psi, lb/ft2, inH2O @ 4°C, inH2O @ 20°C, inH2O @ 60°F, ftH2O @ 4°C, ftH2O @ 20°C, ftH2O @ 60°F, User Defined 1, User Defined 2, User Defined 3, User Defined 4 (Feet and Meters in Airfield task)

Performance over the calibrated temperature range		
Tallis Precision	2 and 3.5 bar absolute 0.0010% FS includes linearity, hysteresis, repeatability and temperature effects	
Tallis barometer precision	Precision for the optional barometric reference 0.020 mbar or 0.0002901 psi. Includes non-linearity, hysteresis, repeatability and temperature effects between 15°C (59°F) and 45°C (113°F)	
Tallis long term stability	Tallis 2 and 3.5 Bar absolute 0.0015% FS per annum,	
Tallis accuracy	Absolute ranges 2000, 3500 mbar accuracy (2 Sigma) over calibrated temperature range 6 ppm RDG + 15 ppm FS. Includes measurement precision, measurement long term stability and calibration equipment expanded uncertainty.	
Tallis multi-year accuracy specification		**2 and 3.5 Bara**
	2 year	5 ppm RDG + 21 ppm FS
	3 year	3 ppm RDG + 29 ppm FS
	4 year	3 ppm RDG + 37 ppm FS
	5 year	2 ppm RDG + 45 ppm FS

Pseudo gauge mode precision	RSS absolute mode reference precision and barometric precision
Tallis Barometric reference accuracy	Barometer accuracy (2 Sigma) = 0.05 mbar over the calibrated temperature range. Includes measurement precision, measurement long term stability per annum and calibration equipment expanded uncertainty
Aeronautical specification	**Altitude range: -3,000 to +55,000 ft** (2 Bara sensor) Altitude precision: @ Sea level ±0.60 ft, @ 8,500 ft ±0.70 ft, @ 35,000 ft ±1.76 ft Altitude RVSM accuracy: @ Sea level ±1.00 ft, @ 29,000 ft ±2.24 ft, @ 35,000 ft ±2.80 ft @ 41,000 ft ±3.62 ft **Airspeed range: to 650 knots** (2 Bara sensor) Airspeed precision: @ 50 knots ±0.17 kts, @ 250 knots ±0.03 kts, @500 knots ±0.01 kts Airspeed accuracy: @ 50 knots ±0.31 kts, @ 250 knots ±0.06 kts, @500 knots ±0.02 kts **Altitude range: -3,000 to +75,000 ft** (2 Bara sensor) Altitude precision: @ Sea level ±0.60 ft, @ 8,500 ft ±0.70 ft, @ 35,000 ft ±1.76 ft, @75,000 ft ±12.05 ft, Altitude RVSM accuracy: @ Sea level ±1.00 ft, @ 29,000 ft ±2.24 ft, @ 35,000 ft ±2.80 ft @ 41,000 ft ±3.62 ft, @75,000 ft ±18.21 ft **Airspeed range: to 1000 knots** (3.5 Bara sensor) Airspeed precision: @ 50 knots ±0.25 kts, @ 250 knots ±0.05 kts, @500 knots ±0.02 kts, @1000 knots ±0.01 kts Airspeed accuracy: @ 50 knots ±0.51 kts, @ 250 knots ±0.10 kts, @500 knots ±0.04 kts, @1000 knots ±0.02 kts

Electrical

Power Supply	90 VAC to 130 VAC @ 47 to 63 Hz and 180 VAC to 260 VAC @ 47 to 63 Hz. 15 VA

Communications

Communications	RS232, USB and IEEE-488, SCPI, DPI141, DPI142 and DPI150 emulation. LabVIEW drivers Ethernet (VXI-II and Sockets using SCPI).
Data log	Display screen shot stored in CSV format, onto memory card or external USB storage device. User defined update rate from 1 second.

Environmental		
Temperature	Operating Calibrated Storage	10°C to 50°C (50°F to 122°F) 15°C to 45°C (59°F to 113°F) -20°C to 70°C (-4°F to 158°F)
Sealing **Humidity** **Vibration** **Shock** **Conformity**	IP20 (EN60529), indoor use only 5% RH to 95% RH non-condensing. Compliant with Def. Stan. 66-31 8.4 Cat 3 and MIL-T-28800E Cat 2 Mechanical shock conforms to EN61010 Electrical safety - Global (IEC61010-1, UL61010-1, CSA 22.2, No. 61010-1 and CB test certificate), LVD (EN 61010-1). EMC EN61326, PED, ROHS and WEEE. CE	

Physical	
Weight	3.2kg (excluding external PSU and packaging) to 6.5 lbs (including external PSU and packaging)
Dimensions	218 mm wide x 88mm (2U) high x 250 mm deep (8.6in x 3.5 (2U) x 9.8 in)
Pressure connection	G 1/8 Female (1/8 NPT Female by adaptor, standard for North America)

Ordering information for PACE Tallis – Pitot Static Calibrator

(see PACE Tallis data sheet for more models, options and pressure ranges)

1. Model PACE Tallis

Tallis1001 – PACE Tallis with 1 internal pressure sensor
Tallis1002 – PACE Tallis with 2 internal pressure sensors

2. Options

The range of optional features applicable for pitot static calibration includes:

• Leak Test – Automatically measures leak rates in the desired units/minute or units/seconds
• Aeronautical - Allows for the test and calibration of aeronautical instruments Please state the required range: 55,000ft/650 knots or 75,000ft/1000 knots

3. PACE chassis – Area of use/mains lead

Please state area of use for instrument set up:
Europe
North America
Japan
Asia
Rest of the world

Please state area of use for mains lead:
UK
Japan
EU
USA
South Africa/India
China
Australia/New Zealand

4. Country Marking

Tallis will be supplied with appropriate standard compliance labelling (STD). Additional regional specific labelling may also be made available as required

5. Pressure Range

Please state 1 range for Tallis1001 model or any 2 ranges for Tallis1002
2 bara/30 psia/200.0 Kpaa
3.5 bara/50 psia/350.0Kpaa
*Barometer 750 to 1150 mbara/10.9 to 16.7 psia/75 to 115 Kpaa (Provides barometric reading or gauge pressure option in conjunction with Tallis absolute sensors)