



D. Marchiori

# MPS43H

## Helicopter Air Data Test Set

- Fully automatic air data testing for helicopters
- Compact and self contained - 4Kg (9lbs)
- Colour LCD backlit display / touch screen
  - Simultaneous display of all parameters
  - Low power consumption
  - Internal battery provides safety

### ULTRA-COMPACT HELICOPTER DIGITAL AIR DATA TEST SET

The MPS43H is a digital technology portable Air Data Test Set incorporating many standard features normally found in more expensive air data test sets. The MPS43H is a customized version of the MPS43, especially configured for use with helicopters. It is rugged and splashproof for demanding flight line use.

The instrument is easy and fast to use by both experts and first time users. Testing and troubleshooting with the MPS43H can be performed via the integrated touch screen and an intuitively arranged colour-coded keypad. Readings of commanded and measured test values are displayed on the colour LCD display. Readings of both commanded and measured test values are displayed simultaneously.

The MPS43H incorporates an intelligent, user friendly interface including software that rejects entered values that exceed the preselected limit ranges.

The instrument uses "smart" precision silicon bridge transducers for maximum accuracy at all helicopter related altitudes & airspeeds and has low heat generation for high component endurance and high accuracy. It comes equipped with an internal rechargeable battery with approximately 30 minutes life, for safe return to ambient pressure in case of power loss.

It is small, lightweight and very portable, ideal for transporting over widespread working areas.



# MPS43H Standard Specifications

|        | PARAMETER                            | RANGE                  |                        | RESOLUTION                      |                | ACCURACY [2]                 |
|--------|--------------------------------------|------------------------|------------------------|---------------------------------|----------------|------------------------------|
|        |                                      | MEASURE                | CONTROL                | MEASURE                         | SETPOINT       |                              |
| STATIC | Altitude (ft)                        | -2,000→25,000          | -2,000→25,000          | 1                               | 1              | ± 3 @ SL<br>± 5 @ 20,000     |
|        | Vertical speed (ft/min)              | 0→3,000                | 0→3,000                | 5 @ < 3,000<br>25 @ > 3,000 [1] | 1              | ± 1% of setting              |
|        | Static (inHg abs)<br>(hPa abs)       | 11.1→32.15<br>376→1088 | 11.1→32.15<br>376→1088 | 0.001<br>0.01                   | 0.001<br>0.01  | ± 0.003<br>± 0.1             |
| PITOT  | Airspeed Standard (kts)              | 0→300                  | 0→300                  | 1 @ < 50<br>0.1 @ > 50          | 1              | ± 0.5 @ 50<br>± 0.15 @ > 200 |
|        | Airspeed slew rate (kts/min)         | 0→300                  | 0→300                  | 10                              | 10             | ± 10 ± 1% of setting         |
|        | Pitot (Qc) (inHg diff)<br>(hPa diff) | 0→4.53<br>0→154        | 0→4.53<br>0→154        | 0.0001<br>0.01                  | 0.0001<br>0.01 | ± 0.005<br>± 0.17            |
|        | Engine Pressure Ratio (EPR)          | 1→1.15@ SL             | 1→1.15@ SL             | 0.001                           | 0.001          | ± 0.001                      |

Notes: Control capability on all load volumes: Static: 0 to 1.5 L (92 cu. in.), Pitot: 0 to 1 L (61 cu. in.). Larger volumes acceptable

<sup>1</sup> Selectable to ± 1 ft/min

<sup>2</sup> Total accuracy includes all metrological uncertainty contributions for the pressure measured. Metrological data has full traceability with International accredited Labs.

## SAFETY

The MPS43H is designed for maximum safety during testing. Design features protect the test set and instruments under test. Negative Qc condition of Ps greater than Pt is always prevented. With loss of power the test circuit is safely isolated and can be manually vented preventing instrument and test set damage. Preset factory or user programmed, password protected, safe limit factors prevent damage to the instruments under test during operation.

## STANDARD TEST FUNCTIONS

- Pressure/vacuum generation, internal pumps
- Automatic leak check
- Controlled venting to ambient
- Altitude/airspeed input for helicopter ranges
- Static/dynamic(Qc)/total pressure input
- Altitude/airspeed rates input
- TAS / IAS toggle , TAS temperature correction
- Altitude offset correction
- 30 user test programmed profiles of 26 steps each.
- Audible indication when approaching set point
- Various measure units selectable
- EPR generation

## DISPLAY AND KEYPAD

Integral display and keypad in splash proof and shock protected front panel.  
LCD multi-coloured backlit touch screen, 114mm (3.5") diagonal, displays all test parameters.

## DISPLAYED UNITS

Altitude: ft, m, hm

Airspeed: kts, km/h, mph

Pressure: inHg, hPa, kPa, Pa, psi, mmHg, inH2O

## CALIBRATION

One year interval, performed from front panel.

## PHYSICAL SPECIFICATIONS

Weight: 4 kg. (8.8 lbs.)  
Dimensions: L 300 x W 250 x H 120 mm  
(L 11.8 x W 9.8 x H 4.7 in.)  
Connections: Static: AN-4 37° flare  
Pitot: AN-3 37° flare

Front ports fitted with O-rings for finger tight sealing. Captive dust caps supplied.

## ENVIRONMENTAL

Temperature range  
Operating: -5°C to +50°C  
Storage: -20°C to +70°C  
Splashproof and shockproof.  
CE compliant.



## POWER SUPPLY

Universal power supply: 90-240 VAC; 50-400 Hz.  
20 VA

Rechargeable internal battery providing 30 minutes back up for safe shut down. For battery operation see the EPU6 under Associated Products.

## WARRANTY

Unit: 2 Years  
Pumps: 1500 hours or 2 years, whichever expires first.

## OPTIONS

- A0** 28 VDC
- A2** No internal battery
- B7** Gray Code Altitude Device Read-out
- F4** ADWIN PC Control software (unlocked)
- K0** AN4 (ps), AN3 (Pt)
- K1** AN4 (Ps), AN4 (Pt)
- K2** AN6 (Ps), AN4 (Pt)
- K5** Staubli red (Ps), Staubli black (Pt)
- T0** Power cable 2m Schuko plug
- T1** Power cable 2m American plug
- T2** Power cable 10m Hubbel HBL5266C
- T3** Power cable 2m Australian plug

## INCLUDED ACCESSORIES

ADWIN PC Control software (MPS43/43H only)  
USB cable  
Power cable chosen from above options  
Hoses and fittings

## ASSOCIATED PRODUCTS

Pitot-static adaptors  
**EPU6** External battery power unit, providing 6 hours operation.  
**DMAKV2** Vacuum Source for adaptor hold down use.  
Pressure indicators/transfer standards

Ongoing development results in specifications being subject to change without notice



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Representative

