

MM14 Pressure calibrator



FEATURES

- Accuracy better than 50 ppm including the Primary and Transfer Standards.
- Simple operation, utilising the PC software for the complex operations.
- Primary Std DHI model PG 7601.
- Automatic verification of transfer standard.
- Transfer Standard resolution: 0.2 Pa on the static line and 0.5 Pa on pitot line.
- The calibration of U.U.T. possible at any pressure up to 350000 Pa.
- Two membrane pumps for the U.U.T. Control, and one double stage oil vacuum pump for the Primary Std vac.reference.

PRESSURE CALIBRATION SYSTEM

MM14 is a digital technology pressure standard calibrator. It consists of a variety of components combined to allow ease of operation for the verification of pressure based UUTs (unit under test) such as Air Data Test Sets.

The MM14 utilises a very accurate dual pressure transfer standard generator, a reference Primary Standard dead-weight and PC based operating system for automatic verification of the U.U.T.

All functions are activated via the built-in PC using a simple and effective software interface. The transfer standard precision can also be verified at any time in a simple manner from the PC. All procedures can be executed either manually or automatically.



This illustration shows the normal operation during the accuracy test of the U.U.T. All test results for both the U.U.T. and transfer standard are stored in the PC

in an easily readable format (CVS).

UNITS

Target pressures can either be specified in aeronautical units (altitude, airspeed) or pressures (absolute or differential). Different pressure units can be chosen for all parameters.

TEST RESULTS' HISTORY

All test results, both of U.U.T. and of the transfer standard, are stored in the PC. The archived data can be manipulated for any type of statistical analysis: calibration drift, fault analysis, etc.

AUTOMATIC AND MANUAL PROCEDURES

MM14 supports both automatic and manual mode of operation. In automatic mode, the program runs a defined list of set points. In manual mode, the operator can set the desired individual target pressures.



This picture shows the built-in transfer standard accuracy test. The test is fully automatic. All results are stored in the PC.

PRESSURE STANDARDS

The transfer standard utilises two vibrating cylinder absolute pressure sensors.

The pressure sensors incorporate an advanced numerical post-processing filter, to realise a linearity better than 25 ppm F.S. The Primary Standard is the highly respected DHI model PG 7601. All output data are read and processed by the built-in software.

STANDARD SPECIFICATIONS

Control capability on all load volumes (cu. in.)

Static: 0 to 1 L (0 to 62 cu. in.), Pitot: 0 to 1 L (0 to 62 cu. in.). Larger volumes possible with reduced RoC

Parameter		Range		Resolution		Accuracy	Control Stability
		Measure	Control	Measure	Setpoint		
Altitude(ft)		from -7,000 to +99,999	from -7,000 to +99,999	1	1	± 2 @ SL ± 4 @ 30,000 ± 7 @ 50,000	± 2
Vertical speed (ft/min)		0 to 30,000	0 to 30,000	5 @ < 1,500 25 @ > 1000	1	± 10 ± 1% of reading	± 10 ± 1% of reading
Static (inHg abs) (hPa abs)		0.3 to 38 10 to 1300	0.3 to 38 10 to 1300	0.0001 0.002	0.001 0.01	± 0.001 ± 0.1	± 0.002 ± 0.07
Airspeed	Standard (kts)	10 to 1000	10 to 1000	1 @ < 50 0.1 @ > 50	1	± 0.5 @ 50 ± 0.1 @ > 500	± 2
	U.L.S. (kts)	2 to 200	2 to 200	0.1 @ > 20		± 0.03 hPa	
Mach No.		0 to 8	0 to 8	0.001	0.001	< ± 0.003	± 0.002
Airspeed slew rate (kt/min)		0 to 900	0 to 900	10	10	± 10 ± 1% of reading	± 10%
Pitot (Qc)	(inHg diff)	0 to 105	0 to 105	0.0001	0.0001	± 0.005	± 0.004
	(hPa diff)	0 to 1040	0 to 1040	0.01	0.01	± 0.17	± 0.14

STANDARD TEST FUNCTIONS:

- pressure/vacuum generation
- automatic leak check
- controlled venting to ambient
- altitude/airspeed input
- static/dynamic(Qc)/total pressure input
- altitude/airspeed rates input
- static/dynamic(Qc) pressure rates input
- Mach Number input
- TAS/IAS toggle, TAS temperature correction
- altitude offset correction
- various measure units selectable

DISPLAY AND CONTROLS

All the operations are controlled through the PC with dedicated software

CALIBRATION

One year interval, performed using software

DISPLAYED UNITS

Altitude: ft, m, hm
Airspeed: kts, km/h, mph
Pressure: inHg, hPa, kPa, Pa, psi, mmHg, inH₂O

WARRANTY

2 Years

ENVIRONMENTAL

Temperature range
Operating: +10°C to +35°C
CE compliant

PHYSICAL SPECIFICATIONS

Weight: 120 kg. (270 lbs.)
Dimensions: L 125, W 75, H 94 cm
(50" x 30" x 37")

POWER SUPPLY

Power requirement: 115-220 Vac; 50-60 Hz.

Note: As standard supplied without table and with a 19" Rack.
Table as shown in the illustration can be supplied as an option

Note: --- On-going development results in specifications being subject to change without notice ---

03-2010



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