FLUKE®

Calibration

PGC-10000-AF™

Pneumatic Gauge Calibrator

Technical Data

Features

- Calibrate any range device in gas from less than 500 to 10 000 psi (70 MPa) FS with one compact, integrated system
- Effortless operation; no pumping, no weight lifting
- Includes gas booster to boost a bottled air supply as low as 400 psi (2.75 MPa) to 10 000 psi (70 MPa)
- Easily set pressure to DUT cardinal point and read back actual pressure from the reference
- On-board calibration routines with real time out-of-tolerance notification and data logging
- Foot pedal "ENTER" key for hands free sequence execution
- Complete a typical high pressure gauge run in about 20 minutes (20 % ascending increments)
- Supports 12 units of measure and custom units
- Push button switching between gauge and absolute measurement modes
- RS-232 and IEEE-488 interfaces included; compatible with COMPASS® for Pressure software
- Delivered with connectors and adaptors for NPT, AN4 and gland and collar DUTs
- Includes molded, reusable transit case for shipping RPM4/HPMS transfer standard for recalibration

PGC-10000-AF is a special configuration of DHI's GPC1 Gas Pressure Controller and RPM4 A70M/A20M Reference Pressure Monitor (see the GPC1 and RPM4 brochures for details). The PGC-10000-AF was designed to optimize the testing and calibration of analog and digital pressure gauges and indicators in ranges from less than 500 psi (3.5 MPa) to 10 000 psi (70 MPa). This special configuration was selected by the United States Air Force as the next generation high pressure pneumatic gauge calibration system for deployment in its Precision Measurement Equipment Laboratories (PMELs) throughout the world.

With GPC1 and associated GB-152 Gas Booster, the operator effortlessly generates and adjusts pressure to set the device under test to its cardinal point. The RPM4 then precisely measures the actual pressure applied.

Interactive RPM4 embedded software automatically sets up the calibration procedure based on entry of the DUT full scale and tolerance. It then steps the operator through the test, logging data and providing real time notification of in or out-of-tolerance conditions at each point. A foot pedal "ENTER" switch allows the operator to trigger readings hands free.

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Specifications

General	
Power requirements	Electrical: 85 V to 264 V ac, 50/60 Hz, 25 VA max consumption and 12 V dc, 1.2A Pneumatic: 75 psig (500 kPa) shop air at 15 scfm to 75 scfm (425 slm to 2 125 slm) and 100 psig (700 kPa) clean, dry gas
Test gas supply	400 psi to 3 000 psi (3 MPa to 20 MPa) Maximum high pressure output is high pressure supply times 25
Operating temperature	18 to 28 °C (64 °F to 82 °F)
Weight	RPM4/HPMS: 11.0 kg (22 lb) GPC1: 24.0 kg (53 lb) GB-152: 16.4 kg (36 lb) Total: 51.4 kg (113 lb)
Benchtop system footprint (GB-152 Gas Booster mounted under bench) (W x D)	75 cm x 60 cm (30 in x 24 in)
Overall pressure range	Gauge mode: 0 psig to 10 000 psig Absolute mode: atm to 10 000 psia (70 MPa)
Standard test fluid	Any non-corrosive gas
Test connection	DH500 (gland and collar type for coned and left hand threaded tube equivalent to AE F250C, HIP HF4, etc.), adaptors to 1/8 in NPT M, 1/4 in NPT M, 1/4 in NPT F, AN4 M provided
Pressure ranges (all ranges are gauge and absolute)	Hi Q-RPT: 10 000 psi (70 MPa) Lo Q-RPT: 3 000 psi (20 MPa)
Pressure measurement	
Precision[1]	Hi Q-RPT1: ± 0.0175 % of reading or 0.44 psi (3 kPa), whichever is larger Lo Q-RPT ± 0.0175 % of reading or 0.13 psi (0.9 kPa), whichever is larger
Predicted stability[2]	± 0.004 % of reading
Measurement uncertainty[3]	Hi Q-RPT: ± 0.02 % of reading or 0.5 psi (3.5 kPa), whichever is larger Lo Q-RPT: ± 0.02 % of reading or 0.15 psi (1 kPa), whichever is larger

[1] Precision: Combined linearity, hysteresis, repeatability.
[2] Stability: Change in zero and span, with use of AutoZ feature, over 6 months period for typical RPT used under typical conditions. As stability can only be predicted and varies from Q-RPT to Q-RPT, stability for a specific Q-RPT should be established from experience.
[3] Maximum deviation of the Q-RPT indication from the true value of applied pressure including precision, predicted one year stability, temperature effect and calibration uncertainty (assumes calibration reference uncertainty of ± 0.005 % of reading), combined and expanded (k=2) following the ISO "Guide to the Expression of Uncertainty in Measurement."

Ordering information

Model
PGC-10000-AF Pneumatic Gauge Calibrator

Includes
GPC1-10000-AF Pneumatic Pressure Controller
RPM4/HPMS A70M/A20M Reference Pressure Monitor
GB-152-AF Gas Booster
Interconnecting hardware
Test connection adaptor kit
Molded transit case for RPM4/HPMS
Operation and maintenance manuals
A2LA accredited calibration report
System final test report

Fluke Calibration. *Precision, performance, confidence.™*

Electrical | RF | Temperature | Pressure | Flow | Software

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