

PGC-10000-AF™ Pneumatic Gauge Calibrator



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
- RS232 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

DESCRIPTION / APPLICATIONS

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.

SPECIFICATIONS

GENERAL

Power Requirements:

Electrical 85 to 264 VAC, 50/60 Hz, 25 VA max consumption and 12 VDC, 1.2A

Pneumatic 75 psig (500 kPa) shop air at 15 to 75 scfm (425 to 2 125 slm) and 100 psig (700 kPa) clean, dry gas

Test Gas Supply:

400 to 3 000 psi (3 to 20 MPa)
Maximum high pressure output is high pressure supply times 25

Operating Temperature

Range: 18 to 28 °C (64 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): 75 cm W x 60 cm D (30 in. x 24 in.)

Overall Pressure Range: Gauge mode: 0 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

Precision¹:

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

Operating Temperature

Range: 18 to 28 °C

Predicted Stability²: ± 0.004% of reading

Measurement Uncertainty³:

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

PGC-10000-AF is a turnkey system delivered complete with:

- 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

Product Designator: PGC-10000-AF

Part Number: 402205

Ordering Description: Pneumatic gauge calibrator

Due to a policy of continuous improvement, all specifications contained in this brochure are subject to change without notice.

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**Calibration Solutions
for Pressure
and Flow™**

DH Instruments, Inc.
4765 East Beautiful Lane
Phoenix AZ 85044-5318
USA

Tel 602.431.9100
Fax 602.431.9559
dhi@dhinstruments.com
www.dhinstruments.com