HGC-30000-AF™ Hydraulic Gauge Calibrator

FEATURES

- Calibrate any range device from less than 1 000 to 30 000 psi (200 MPa) FS with one compact, integrated system
- Effortless operation; no pumping, no weight lifting
- 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 10 minutes (20 % ascending increments)
- Supports 12 units of measure and custom units
- Pushbutton switching between gauge and absolute measurement modes
- RS232 and IEEE-488 interfaces included; compatible with COMPASS® for PPC/RPM™ software
- Delivered with connectors and adaptors for 1/4 in. NPT M and F, AN4, gland and collar DUTs
- Includes molded, reusable transit case for shipping RPM3/HPMS for recalibration

Calibration Solutions for Pressure and Flow™

DESCRIPTION / APPLICATIONS

HGC-30000-AF is a special configuration of **DHI**'s OPG1 Hydraulic Pressure Generator/Controller and RPM3 A30000/A6000 (see the OPG1 and RPM3 brochures for details). The HGC-30000-AF was designed to optimize the testing and calibration of analog and digital pressure gauges and indicators in ranges from less than 1 000 psi (7 MPa) to 30 000 psi (200 MPa). This special configuration was selected by the United States Air Force as the next generation high pressure gauge calibration system for deployment in its Precision Measurement Equipment Laboratories (PMELs) throughout the world.

With OPG1, the operator effortlessly generates and adjusts pressure to set the device under test to its cardinal point. The RPM3 then precisely measures the actual pressure applied.

Interactive RPM3 embedded software automatically sets up the calibration procedure based on entry of the 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 to 264 VAC, 50/60 Hz

Pneumatic 90 psig (620 kPa) shop air and 120 psig (850 kPa) clean, dry gas

Operating Temperature Range:
15 to 45 °C (59 to 113 °F)

Weight:

RPM3/HPMS 9.3 kg (20.5 lb)

OPG1 27.0 kg (59.5 lb)

Total 36.3 kg (80.0 lb)

Footprint (Complete System):
70 cm W x 54 cm D (28 in. x 21 in.)

Overall Pressure Range: 0 to 30 000 psig
atm to 30 000 psia (200 MPa)

Standard Test Fluid: Di-2 Ethyl Hexyl Sebacate (synthetic oil)

Test Connection: DH500 (gland and collar type for coned and left hand threaded tube equivalent to AE F250C, HIP HF4, etc.), adaptors to 1/4 in. NPT M, 1/4 in. NPT F, AN4 M provided

PRESSURE RANGES (All ranges are gauge and absolute.)

L1	2 000 psi	(14 MPa)
L2	4 000 psi	(28 MPa)
L3	6 000 psi	(40 MPa)
H1	10 000 psi	(70 MPa)
H2	18 000 psi	(125 MPa)
H3	30 000 psi	(200 MPa)

PRESSURE MEASUREMENT (± % FS of Active Range)

Precision[1]:

L1	0.01	**H1**	0.0125
L2	0.01	**H2**	0.0125
L3	0.01	**H3**	0.0150

Temperature Effect: 0.008 max over 0 to 50 °C

Predicted Stability[2]: 0.002

Measurement Uncertainty[3]:

L1	0.015	**H1**	0.0160
L2	0.015	**H2**	0.0160
L3	0.015	**H3**	0.0180

[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 RPT to RPT, stability for a specific RPT should be established from experience.

[3] Measurement Uncertainty: Maximum deviation of the RPT indication from the true value of the applied pressure including precision, predicted stability, temperature effect and calibration standard uncertainty of ± 0.005% of reading.

ORDERING INFORMATION

HGC-30000-AF is a turnkey system delivered complete with:

- OPG1-30000-AF Hydraulic Pressure Generator/Controller
- RPM3/HPMS A30000/A6000 Reference Pressure Monitor
- Interconnecting hardware
- Test connection adaptor kit
- Calibration fluid (1 qt.)
- Molded transit case for RPM3/HPMS
- Operation and maintenance manuals
- Calibration report documenting direct traceability to NIST
- System final test report

Product Designator: HGC-30000-AF

Part Number: 401600

Ordering Description: Hydraulic gauge calibrator

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

Calibration Solutions for Pressure and Flow™

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