

INDUSTRY RANGE



The GPC series controllers are the latest generation of a range of innovative automatic pressure controllers started by **DESGRANGES & HUOT** in 1984.

The Model **GPC3** is a high accuracy and high speed controller and calibrator which combines quartz-based multi-range pressure measurement with the latest generation pressure control technology. This makes GPC3 a truly advanced gas-operated pressure calibration standard offering high performance measurement, speed, versatility and reliability for industrial applications.

GPC3

Multirange Pneumatic Pressure Controller and Calibrator

- High level accuracy to 0.005 %
- 3 Measuring ranges in one instrument with Auto-range
- Ranges up to 10 MPa
- Pressure control precision to 0.004 %
- Fast generation speed down to 10 seconds
- Leak compensation ability
- Local or remote operation



DH-Budenberg

QUARTZ PRESSURE SENSOR TECHNOLOGY

The GPC3 uses an oscillating quartz pressure sensor for reference pressure measurement.

This market leading technology provides outstanding characteristics of accuracy, resolution and long term stability. Temperature effects are fully compensated over the entire operating range and the influence of environmental parameters such as vibration or gravity is negligible. This makes GPC3 the ideal solution for any high level calibration application, even in the most demanding environment.

TRUE MULTIRANGING WITH SINGLE SENSOR

The metrology qualities of quartz sensor technology allow dividing each main GPC3 range in 3 sub-ranges for which independent calibration coefficients are calculated and stored.

This technique gives GPC3 true multi-ranging capability without the complexity, fragility and cost involved with multi sensors systems.

Operating range can be individually selected by the user and the Auto-Range function provides automatic range change-over when required. All GPC3 may operate both in absolute and gauge pressure mode.

DUAL PRESSURE GENERATION MODE

Uniquely, the GPC3 enables the user to select pressure generation mode in order to best tailor the controller to the application.

For applications where speed is required "max" mode offers times to set point below 10 seconds.

For applications where very fine pressure control is required, the "limited" mode generates and stabilises pressure within 0.004 % FS in less than 40 seconds.

Fast response and minimal overshoot are provided in both modes through a solenoid-type regulator which eliminates manual adjustments.

MEASURING RANGES

	Model	GPC3-A002	GPC3-A005	GPC3-A010	GPC3-A025	GPC3-A050	GPC3-A100
Absolute Pressure	Range 1	0 to 120 kPa 0 to 1.2 bar 0 to 17 psi	0 to 210 kPa 0 to 2.1 bar 0 to 30 psi	0 to 370 kPa 0 to 3.7 bar 0 to 53.5 psi	0 to 0.87 MPa 0 to 8.7 bar 0 to 126 psi	0 to 1.71 MPa 0 to 17.1 bar 0 to 248 psi	0 to 3.38 MPa 0 to 33.8 bar 0 to 490 psi
	Range 2	0 to 250 kPa 0 to 2.5 bar 0 to 36 psi	0 to 410 kPa 0 to 4.1 bar 0 to 59 psi	0 to 750 kPa 0 to 7.5 bar 0 to 108.5 psi	0 to 1.75 MPa 0 to 17.5 bar 0 to 253.5 psi	0 to 3.41 MPa 0 to 34.1 bar 0 to 494.5 psi	0 to 6.75 MPa 0 to 67.5 bar 0 to 979 psi
	Range 3	0 to 370 kPa 0 to 3.7 bar 0 to 53.5 psi	0 to 620 kPa 0 to 6.2 bar 0 to 89.5 psi	0 to 1120 kPa 0 to 11.2 bar 0 to 162 psi	0 to 2.62 MPa 0 to 26.2 bar 0 to 379.5 psi	0 to 5.12 MPa 0 to 51.2 bar 0 to 742.5 psi	0 to 10.12 MPa 0 to 101.2 bar 0 to 1467.5 psi
Gauge Pressure	Range 1	-100 to 20 kPa -1 to 0.2 bar -14.5 to 2.9 psi	-100 to 110 kPa -1 to 1.1 bar -14.5 to 15.95 psi	-100 to 270 kPa -1 to 2.7 bar -14.5 to 39.15 psi	-0.1 to 0.77 MPa -1 to 7.7 bar -14.5 to 111.65 psi	-0.1 to 1.61 MPa -1 to 16.1 bar -14.5 to 233.5 psi	-0.1 to 3.28 MPa -1 to 32.8 bar -14.5 to 475.6 psi
	Range 2	-100 to 150 kPa -1 to 1.5 bar -14.5 to 21.75 psi	-100 to 310 kPa -1 to 3.1 bar -14.5 to 44.95 psi	-100 to 650 kPa -1 to 6.5 bar -14.5 to 94.25 psi	-0.1 to 1.65 MPa -1 to 16.5 bar -14.5 to 239.25 psi	-0.1 to 3.31 MPa -1 to 33.1 bar -14.5 to 480 psi	-0.1 to 6.65 MPa -1 to 66.5 bar -14.5 to 964 psi
	Range 3	-100 to 270 kPa -1 to 2.7 bar -14.5 to 39.15 psi	-100 to 520 kPa -1 to 5.2 bar -14.5 to 75.4 psi	-100 to 1020 kPa -1 to 10.2 bar -14.5 to 147.9 psi	-0.1 to 2.52 MPa -1 to 25.2 bar -14.5 to 365.4 psi	-0.1 to 5.02 MPa -1 to 50.2 bar -14.5 to 728 psi	-0.1 to 10.02 MPa -1 to 100.2 bar -14.5 to 1453 psi

The GPC3 reference sensor is an absolute pressure sensor. Gauge pressure measurements are obtained by zeroing the reference sensor at ambient pressure and permanently compensating for the evolutions of barometric pressure with an on-board barometer (Auto-zero function).

The measurable gauge pressure range depends on the barometric pressure of the time. The above figures are calculated for a barometric pressure equal to 100 kPa.

METROLOGICAL SPECIFICATIONS

Repeatability	± 0.002% SRFS**
Hysteresis	± 0.002% SRFS**
Stability (90 days)	± 0.002% SRFS**
Resolution	± 0.0001% FS***

Accuracy* ± 0.005% SRFS**

Bias****	± 0.005% SRFS**
Pressure mode effect	Included in the specifications
Temperature effect	Fully compensated

The above figures are expressed at the one standard deviation. *The accuracy statement is defined as the root-sum-of squares of repeatability, hysteresis, linearity, figures after zeroing at the operating temperature. **SRFS stands for Sub Range Full Scale and indicates the active operating range. ***FS stands for Full Scale. **** Bias is also referred to as Maximum Deviation between the standard and the GPC3.

PRESSURE CONTROL

Control precision: ± 0.004% FS

Circuit volume: Optimally up to 500 cc (circuits with larger volumes increase the generation time)

Minimum controllable pressure

- Absolute mode: From 0.03% to 0.05% FS
- Gauge mode: 0

Stability control

- MAX mode: 15 sec after a pressure point is set for stabilisation within ± 0.01% FS
- Limited mode: Stabilisation within the dwell time

Dwell time

- MAX mode: 10 sec max between two points within 0.5% FS and PS
- Limited mode: Dwell time programmable by the user

TECHNICAL SPECIFICATIONS

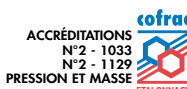
Dimensions (L x W x H)	48.8 x 50 x 17.7 cm	Pressure medium	clean, dry, non-corrosive gas
Weight	22.5 kg	Operating temperature	15 to 45°C (59 to 113°F)
Computer interfaces	RS232 and IEEE488	Power supply	115 - 230 VAC, 50 - 60 Hz

For further information, please contact us.

DH-Budenberg Ltd.
PO Box 224, Woodfield Road,
Altrincham, Cheshire WA14 4FY
United Kingdom
Tel: 44 (0)161 942 4700
Fax: 44 (0)161 942 4701
Email: sales@dh-budenberg.co.uk



DH-Budenberg S.A.
56, rue des Ecoles, BP125
93303 Aubervilliers Cedex
France
Tel: 33 (0) 1 48 39 83 00
Fax: 33 (0) 1 48 33 65 90
Email: dhonline@desgranges.com



DH-Budenberg GmbH.
Raiffeisenstrasse 2
D-63110 Rodgau
Deutschland
Tel: 49 (0) 6106 82 940
Fax: 49 (0) 6106 82 9417
Email: kontakt@dh-budenberg.de



www.dh-budenberg.com