

# PGC5000B Smart Oven™

## PGC5000 Series gas chromatographs

### Simple applications



#### PGC5000B Oven:

- Simpler analytical methods
  - Creates simple applications with a fixed set of features
  - Using multiple ovens creates maximum application flexibility
  - Optimized for maximum analytical capability with minimal hardware
  - All hardware component access points are from the front of the analyzer
  - Flexible platform for product expansion and future enhancements
  - Multiple oven capability
- EPC standard
  - Distributed analyzer architecture
    - Oven isolation for maintenance and upgrades
    - Different oven sizes for application designs
    - Analyzer densification for reduction in shelter size
  - Industry standard CANopen protocol
  - Unlimited application configurations
  - Local diagnostic capability
  - Controlled and phased analyzer upgrades
  - Factory engineered reapplications
  - Simple application expansion

# PGC5000B Smart Oven™

## PGC5000 Series gas chromatographs

### Application

#### Usage

The PGC5000B Smart Oven™ targets simple applications or complex applications that can be made simple. Smart Oven™ technology can be single or multiple ovens allowing application design flexibility, producing simpler analyses which are easier to maintain with higher reliability. PGC5000B Smart Oven™ smaller footprint minimizes space and utility requirements, while increasing analyzer density in shelters.

#### Description

PGC5000B Smart Oven™ technology supports applications that require a single detector with up to three analytical valves. Advanced pressure, temperature and stream control software executes analytical methods required for analyses. A single PGC5000A Controller can support up to four PGC5000B Smart Ovens™ reducing space and utility requirements while increasing applications flexibility.

#### Physical

##### B-class oven:

Environmental (enclosure):	Protected from weather: IP 54, (NEMA 3 Equivalent)
Ambient temperature range:	0 to +50° C (32 to 122° F)
Humidity:	95% relative humidity, non-condensing
Dimensions:	596.9 mm W x 419.1 mm D x 609.6 mm H (23.5 in. W x 16.5 in. D x 24 in. H)
Weight:	60 kg (132 lb) (minimum, configuration dependent)
Mounting:	Wall: 33 mm (1.3 in.) from wall with brackets Floor: Optional dolly with casters
EMI/RFI considerations:	Conform to class A industrial environment
Electrical entries:	Left side
Pneumatic entries:	Right side
Sample entries:	Gas & Liquid: Right side
Vents:	Right side

#### Safety area classification

CSA / NRTL:	Class I, Division 1; gas groups B, C, D with type Y-purge Class I, Division 2; gas groups B, C, D temperature code T4 – T2
ATEX / IEC / CN / KO:	Zone 1: CE 0344; II2G, Ex de py IIB+H2 T4 – T2 Zone 2: CE; II3G Ex de nA nL IIB+H2 T4 – T2 Ex de px IIB+H2 T4 – T2 (optional) With X-purge power interlock
Purge wait time:	18 minutes (Class I, Division 1 / Zone 1 area)

#### Power

##### (hot, neutral, ground)

Voltage:	100 – 240 VAC
Frequency:	50-60 Hz
Power consumption:	1,200 Watts startup, 900 Watts steady-state operation Typical, varies with installed options.

### Instrument air

Supply connection: 3/8 inch tube, minimum  
Supply pressure: 551.6 kPa (80 psig)  
Quality: Instrument grade: Clean, oil free and -34° C, (-30° F) dewpoint  
Flow rates: Steady state purge: 127-147 L/min (4.5-5.2 ft<sup>3</sup>/min) at 20° C, Y-purge types

### Analytical detectors

Standard detectors: Single and multiport thermal conductivity, flame ionization, flame photometric  
Third party detectors: Consult factory for availability

### Isothermal analytical oven (B-class)

Oven liner: Stainless Steel  
Internal dimensions: 327.7 mm W x 391.16 mm H x 287 mm D  
(12.9 in. W x 15.4 in. H x 11.3 in. D)  
Number of valves: Standard provisions for 3 gas sample or column switching valves in the oven.  
Standard provisions for 1 external liquid sample valves.  
Consult factory for special requirements  
Columns: 1/16, 1/8, 3/16 inch, packed Stainless, metal or fused Silica capillary  
Heat: Forced air  
Temperature control method: Closed loop PID  
Oven temperature: Ambient + 30° to 180° C (settings and display in ° C only)  
Setpoint resolution: 1° C  
Temperature stability:  
    Steady ambient: ± 0.1° C  
    Ambient range: ± 1.0° C

### Gas control (electronic)

Electronic  
Control method: Closed loop PID, temperature stabilized  
Number of zones: 1 to 5  
Filtration: 2µm at inlet, provided  
Inlet pressure:  
    Minimum: Setpoint + 69 kPa (10 psig)  
    Maximum: 1034 kPa (150 psig)  
Range: 0-100 psig, bubble tight, non-venting  
Electronic pressure zones: Electronic readout: 0.001psig resolution,  
Setpoint resolution: 0.001psig  
Accuracy: 0-100 psig: 2%  
Repeatability: ± 0.05 psig  
Allowable gasses: H<sub>2</sub>, He, N<sub>2</sub>, Air, Ar  
No liquids, corrosives, combustibles, O<sub>2</sub>  
Quality: GC grade  
Flow adjustment: Oven mounted valves or pressure controllers with local or remote adjustment  
Tube fittings: 316 SS Gyrolok (standard)  
316 SS Swagelok (optional)  
1/16, 1/8, 1/4 inch connections

Specifications subject to change without notice.

# Contact us

## **ABB Inc.**

### **Analytical Measurements**

843 N. Jefferson Street  
Lewisburg  
WV 24901  
USA

Tel.: 1 304 647 4358  
Fax: 1 304 645 4236  
analyzeit@us.abb.com

## **ABB Limited**

### **Process Automation**

Oldends Lane  
Stonehouse  
Gloucestershire GL10 3TA  
UK

Tel.: +44 1453 826 661  
Fax: +44 1453 829 671  
instrumentation@gb.abb.com

## **ABB (China) Limited**

Universal Plaza  
10 Jiuxianqiao Lu  
Chaoyang District  
Beijing 100016  
P.R. China

Tel.: +86 10 8456 6688  
Fax: +86 10 8456 7613  
china.instrumentation@cn.abb.com

[www.abb.com](http://www.abb.com)

## Note

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents - in whole or in parts - is forbidden without prior written consent of ABB.

Copyright© 2015 ABB  
All rights reserved

9AKK104295D1560



Sales



Service