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
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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; I12G, Ex de py IIB+H2 T4 – T2
Zone 2: CE; I13G 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 ft3/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: H2, He, N2, Air, Ar
  - No liquids, corrosives, combustibles, O2
- 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.
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