

**GOW-MAC**<sup>®</sup>  
INSTRUMENT CO.

# Series 580 Isothermal Gas Chromatograph



The GOW-MAC Series 580 Isothermal Gas Chromatograph sets the standard for reliable performance in a wide range of applications. So impressive has the performance of this GC been, that many 580 users refer to it as "The Workhorse" instrument of their laboratory.

## Flow System

- Single or Dual Injection Ports or Gas Sample Valves
- Valve Configurations:
  - Backflush
  - Foreflush
  - Heart-cut via column switching
  - Series/Bypass
- Pneumatic valves (optional)
- Heated valve housing for high temperature gas analysis applications (optional)
- Large capacity oven
- Independent temperature controllers for oven, detector and injection ports
- Stainless steel wetted surfaces standard
- Corrosion resistant Silcosteel<sup>®</sup>, nickel alloy systems available

## Column Oven

- Temperature Range: ambient to 400 °C
- Digital display temperature readout: 3-1/2 digit LED digital meter
- Independent temperature controllers with direct reading, ambient to 400 °C
- Column Oven Temp. Protection Circuit: shuts the column oven off if the temp. rises to 30 °C over setpoint
- Oven Fittings: accommodates 1/8" or 1/4" o.d. metal, 6 mm glass, or capillary columns
- Oven Capacity: accommodates up to 30' of 1/8" columns

## Injection Ports

- Septum: standard 9 mm
- Proportioning temperature control with direct digital setting
- Digital display temperature readout: 0 - 400 °C, 3½ digit LED digital meter
- Injection Method: direct on-column or gas sample valve
- Single or Dual column with single or dual injection ports and exits (detector specific)
- Single or dual metering valves for separate control of each column (detector specific)
- Heated, threaded exit ports allow for collection of effluent, optional (TCD)
- Filament protector pressure switch in carrier inlet line (TCD)
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## Detectors (*one detector only; not interchangeable*)

- Single Detector Oven
  - Detector Temperature Control
  - Accurate and reproducible detector conditions
  - Proportioning temperature control with direct digital setting
  - Digital display temperature readout, 3-1/2 digit LED meter
  - Filament protector pressure switch (TCD)
  - Signal amplifier, x10 (optional)
  - Output: 4-20 mA

- Detector Types

### Thermal Conductivity Detectors

- Types:

- ~ standard, 350  $\mu$ L internal volume
- ~ capillary, 20  $\mu$ L internal volume
- ~ preparative, 350  $\mu$ L internal volume with threaded, heated exit ports
- ~ nano-katharometer, 140  $\mu$ L internal volume
- ~ gas density, 780  $\mu$ L internal volume
- ~ thermistor, 115  $\mu$ L internal volume
- ~ wide bore capillary, 140  $\mu$ L internal volume

- Filament Availability

- ~ rhenium-tungsten (WX)
- ~ rhenium-tungsten (WX7) high sensitivity
- ~ gold-sheathed tungsten (AuW)
- ~ nickel (Ni)
- ~ 9k thermistors

- Design: flow-through

- Stainless steel, standard

- Corrosion resistant materials available

- Carrier Gas: helium, nitrogen, or argon

- TCD Bridge Control & Power Supply

- ~ Continuous current adjust, 0 - 300 mA
- ~ Bridge zero adjust
- ~ Attenuator for bridge output: 12 positions to 1024 plus infinity ( $\infty$ )
- ~ Polarity switch
- ~ Line operated, solid state, integrated circuit regulated, constant current

### Flame Ionization Detector (FID)

- Electric Potential: 160 V
- Sensitivity:  $1 \times 10^{-12}$  g/sec
- Max. Operating Temp: 300 °C
- Material: Stainless steel/Ceramic Insulation
- Tip: Stainless steel/Ceramic Insulated jet
- Collector: Cylinder of heavy gauge stainless steel
- Ignitor: Glow plug
- Connectors: Coaxial connector type BNC

### FID Electrometer Amplifier

- Circuit: solid state FET operational amplifier powered by voltage regulated hybrid regulator circuit
- Sensitivity:  $1.5 \times 10^{-12}$  A, full scale
- Linear range:  $1 \times 10^6$
- Input Ranges:  $10^{-9}$ ,  $10^{-10}$ ,  $10^{-11}$ ,  $10^{-12}$  A/mV
- Output Ranges: binary, 1 to 1024 plus infinity ( $\infty$ )

### Discharge Ionization Detector (DID)

- Temperature Range: ambient to 120 °C

### DID Power Supply

- Output: Continuous, stable adjustment, from 0 to rated voltage and current by means of an external zero
- Linearity:  $\pm 1\%$  full scale
- Accuracy: 1% of rates, + 1% of setting
- Output Voltage: 0 - 1.5 kV
- Output Current: 0 - 10 mA
- Stability: 0.01%/hour after ½ hour warm-up

### DID Electrometer Amplifier

- Circuit: solid state FET operational amplifier powered by voltage regulated hybrid regulator circuit
- Sensitivity:  $1.5 \times 10^{-12}$  A, full scale 1 mV recorder
- Dynamic range:  $1 \times 10^5$
- Input Ranges:  $10^{-9}$ ,  $10^{-10}$
- Output Ranges: binary, 1 to 1024 plus infinity ( $\infty$ )

### Communications

Using Clarity<sup>®</sup> chromatography software and interfacing with a PC with MS Windows<sup>®</sup> XP<sup>™</sup> Pro (SP3), Windows<sup>®</sup> Vista<sup>™</sup> Ultimate, or Windows<sup>®</sup> 7<sup>™</sup>, a chromatographer can create methods, design custom reports, view calibration curves, acquire and process data, and create and run batch sequences from a single window. The Series 580 GC also interfaces with strip chart recorders or computing integrators.

### Electrical Requirements

Series 580	105-125 Vac, 60 Hz
Series 582	200-240 Vac, 50 Hz
Circuit Breaker: Series 580:	10 amps
Series 582:	5 amps

### Standard Dimensions

H	12.50"	(31.75 cm)
W	19.50"	(49.53 cm)
D	18.00"	(45.72 cm)

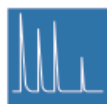
### Weight

Net:	70 lbs. (31.75 kg)
Shipping:	80 lbs. (37.50 kg)

Note: Specifications are subject to change without notice.  
Specifications will vary depending upon the application.

### Ordering Information

Contact your local GOW-MAC sales representative to discuss your application.



**GOW-MAC<sup>®</sup>**  
INSTRUMENT CO.  
Analytical instruments since 1935

**Global Headquarters**  
GOW-MAC Instrument Co.  
277 Brodhead Road  
Bethlehem, PA 18017 U.S.A.  
Tel: (610) 954-9000  
Fax: (610) 954-0599  
E-mail: sales@gow-mac.com  
URL: www.gow-mac.com

**Asian-Pacific Office**  
GOW-MAC Instrument Co. - Taiwan  
3Fl. No. 33, Lane 92, Beida Road  
Hsinchu City 300, Taiwan ROC  
Tel: +886-3-5422845  
Fax: +886-3-5422045  
E-mail: jclo@gow-mac.com

**China Office**  
GOW-MAC Instrument Co. - China  
Room 939, South Tower, Central Office Bldg  
Zhuangsheng Plaza, 10 Xuanwumenwai Ave.  
Xuanwu District, Beijing, China P.C. 100052  
Tel: + 86-13-501010846  
Fax: +86-10-83813136  
E-mail: sales@gow-mac.com.cn  
URL: www.gow-mac.com.cn