Zip Scientific Fast GC

Good People, Top-notch Products and Excellent Service

The GC Racer is a Fast Temperature Programmer. It overcomes the power limitations of conventional GC ovens by adding a second convection heater to the oven. The GC Racer is controlled by the “host” GC and can boost ramp rates up to 120 °C/min.

Advantages of the GC Racer

Saves Time	Faster runs mean higher efficiency, quick turnaround and greater profitability.
Chromatographic Integrity	Does not require specialized columns or interfaces to connect to the injector and detector.
Easy to Implement	Installs in minutes and uses standard columns from any vendor.
Fully Integrated	It is fully controlled by the GC keypad or operating software. No operator training required.
Rugged	Employs the same type of convective heater used in the GC oven.
Utility	One system can be used for dual column GCs.
Versatile	Can run on 110 - 240V, 50/60Hz and coupled with 110 – 240V GCs.
Cost Effective	One-fifth the purchase price compared to resistively heated accessories and no expensive specialized columns.

Learn more about the GC Racer's

- Performance Data: Heating Power > Heating Performance > RT Precision > Fast Analysis

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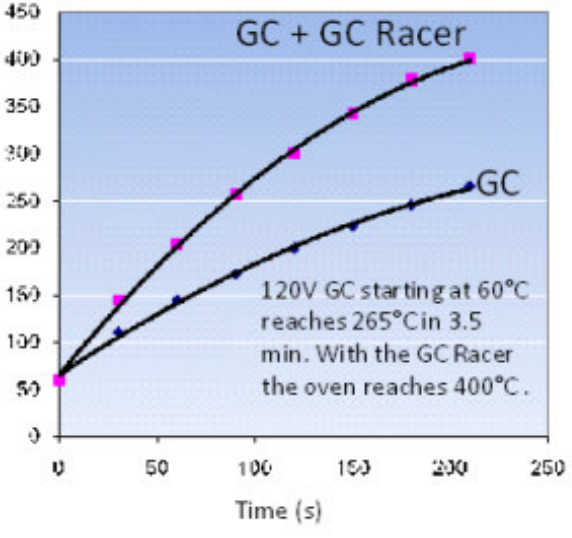
Heating Power: The GC Racer can more than double the heating power of the GC. Power can be measured in Volt-Amps (VA). An Agilent GC oven runs on 120V, 13 amp = 1560VA. The GC Racer supplies 1800 VA (120V X 15 amp) additional power for a total of 3360VA heating power. By contrast a "fast-ramp" oven (240 V X 10 amp) = 2400VA.

Q: Why is the GC Racer better than a "fast oven"?
A: More heating power and you don't need 240V circuits.



GC Power Ratings with and without GC Racer

GC Oven			GC Racer			Total Power (VA)
Volts	Amps	Power (VA)	Volts	Amps	Power (VA)	
120	13	1560	120	15	1800	3360
240	10	2400	Without GC Racer			2400
240	10	2400	240	13	3120	5520

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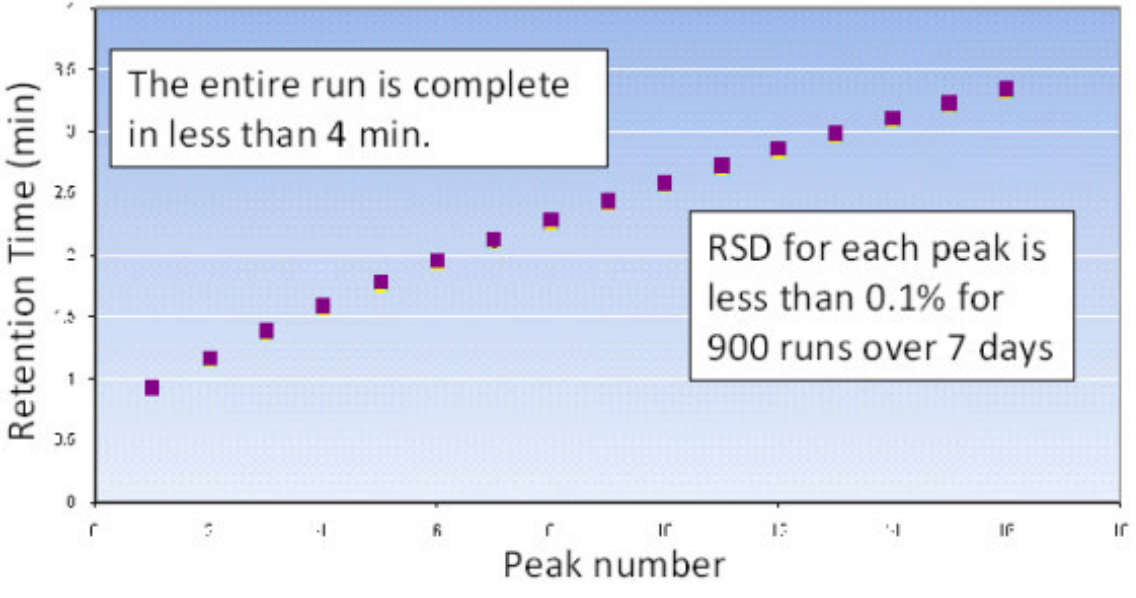
ROI Calculator

Retention Time Precision for 900 runs over 7 days: The GC Racer performance can be evaluated by measuring the relative standard deviation (RSD) of the RT for each peak eluted at 70°C/min ramp rate. This graph plots the retention time for each peak from a sample containing 16 hydrocarbons from C10 – C25.



Temp Program:
50°C (0.33 min hold)
70°C/min to 300°C
(hold 0.1 min)

Splitless injection with purge on at 0.66 min

Column: Rtx-5
15m 0.25mm X 0.25um

Inj = 300°C
FID = 325°C

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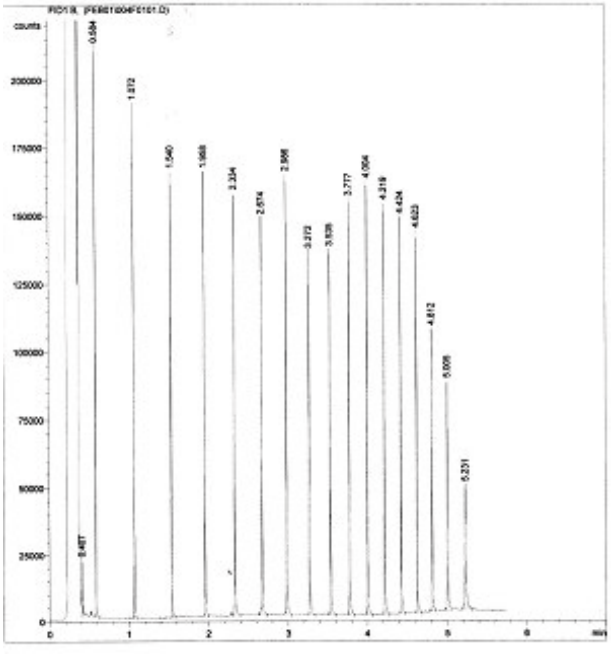
FL PRO: Here's a chromatogram and report from a Fast GC separation of hydrocarbons ranging from C8 to C40. Run time was less than 6 min. Use the zoom feature on your browser to inspect the peaks closely.



```
Injection Date  : 2/1/06 12:18:28 PM                Seq. Line :   1
Sample Name     : FL TPH HEXANE                        Vial :   4
Acq. Operator   : Steve MacDonald                      Inj :   1
                                                   Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\1\METHODS\FID_HC.M
Last changed    : 2/1/06 12:00:13 PM by Steve MacDonald
Analysis Method : C:\HPCHEM\1\METHODS\FID_HC.M
Last changed    : 2/1/06 1:40:29 PM by Steve MacDonald
                  (modified after loading)

                        Height Percent Report

Sorted By             :      Signal
Multiplier            :      5.0500
Dilution              :      1.0500
Sample Amount         :      20.00000  [%]   (not used in calc.)

Signal 1: FID1 B,

Peak RetTime Type  Width     Area      Height    Height
  #   [min]      [min]   counts*s    [counts]      %
---|-------|----|-------|----------|----------|--------|
   1   0.407 BV    5.75e-3 8410.89160 2.18155e4   4.38536
   2   0.584 BB    5.81e-3 7.51584e4  2.16044e5  43.42929
   3   1.872 BB    6.44e-3 7.65015e4  1.90339e5  38.26198
   4   1.540 PB    7.46e-3 7.72139e4  1.64946e5  33.15743
   5   1.956 BB    7.29e-3 7.80507e4  1.64587e5  33.08529
   6   2.334 BB    7.91e-3 7.91226e4  1.56355e5  31.42907
   7   2.674 VB    8.73e-3 8.18087e4  1.47186e5  29.58733
   8   2.986 VB    7.92e-3 8.26682e4  1.62983e5  32.76299
   9   3.272 BB    9.00e-3 8.43944e4  1.34888e5  27.11526
  10   3.535 BB    9.94e-3 8.65440e4  1.35675e5  27.27335
  11   3.777 BB    8.92e-3 8.80285e4  1.53957e5  30.94843
  12   4.004 BB    8.67e-3 8.82639e4  1.60307e5  32.22500
  13   4.219 BB    8.01e-3 8.82755e4  1.52317e5  30.61802
  14   4.424 BB    9.09e-3 8.62029e4  1.46940e5  29.53706
  15   4.623 BB    8.88e-3 8.04315e4  1.41480e5  28.44237
  16   4.812 PB    0.0103  6.81539e4  1.04980e5  21.10307
  17   5.005 BV    0.0107  5.98795e4  8.54587e4  17.17893
  18   5.231 BB    0.0154  4.88752e4  4.70954e4   9.46714

Totals :                  1.33723e6  2.48731e6

 Results obtained with enhanced integrator!

                        *** End of Report ***
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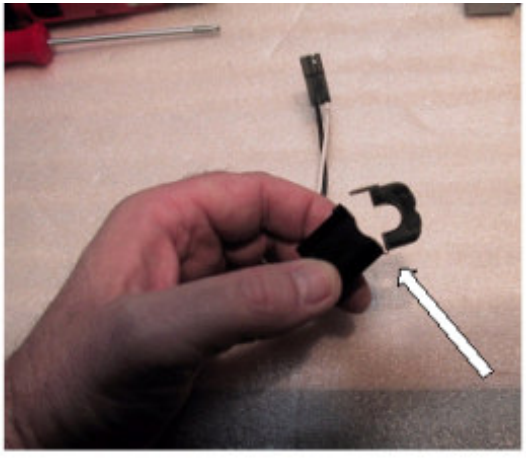
Interface: Our Fast GC Accessories interface with the host GC by sensing the current applied to the oven heater. A current transformer snaps around one of the heater wires of the GC. That's it! Simple, Easy, non-Intrusive.

The GC Racer applies a proportionate amount of current to the accessory heater whenever oven heater current is sensed. Both heaters work together to achieve fast temperature programming up to 120°C/min.



The GC Chaser determines the end of the temperature program when the oven current is stopped. The blower turns on to start the fast oven cool-down cycle and stops automatically when the oven reaches the start temperature.