DPS Companion

The **Companion GC** is a portable gas chromatograph utilizing the same modular plug and play components, that are found in full size laboratory GC DPS 600. The performance of the Companion GC has not been compromised because of it's small size.
The **DPS Companion GC System** are a new breed of GC. They are the first portable GC, where you can select 1 of 5 avalable detectors, allowing you to do more work in the field than ever before. From environmental to forensic, and Homeland security to military applications.The intelligence of the DPS Companion GC Systems are locked safely in microprocessors, where our proprietary Digital Sample Processing routines control the temperatures and gas pressures to tighter specifications than ever before

DPS Companion Gas Chromatograph

Detector : The ability to install from 1 to 2 detectors of the available: **- FID** : Flame Ionization Detector (100 pg detection limit);
- PID : Photoionization Detector (10 pg detection limit);
- HID : Helium Ionization Detector (100 pg detection limit);
- NPD : Nitrogen Phosphorus Detector (20 pg detection limit);
- TID : Thermoionic Detector (20 pg detection limit);
- BCD : Bromine Chlorine Detector (10 pg detection limit);
- FPD : Flame Photometric Detector (10 ng sulphur, 10 pg phospohorus detection limit).

Pressure control : up to 2 electronic pressure controlers for atmospheric pressure and temperature compensation.
EPC pressure control with 0,1 kPa set point resolution.

Injector : 1 or 2 installed ***Split/Splitless*** modified and non-heated
for gas samples; cool on-column injection.
Pressure : injector multiple pressure ramps .
Temperature range :Ambient temperature up to 325° C

Heating : up to 80C per/ min. oven ramp

Communication and control : Control via a color touch screen

Data transmittion : Bi-directional communication with data system Analog and digital signal outputs Start, stop and GC ready output signals
Optional autosampler control software
PeakSimple analysis software available as an option

Weight : approx . 18 kg (version 1 detector), about 28 kg (version 2 detectors)

Dimensions : Water tight carrying case 52 x 40 x 21 cm

Optional equipment : Headspace integrated hub.
Vials automatically heated and maintained at a constant temperature. Transfer's short line eliminates the need for heat transfer path during sampling.
Sampling Type air compressor : "ultra-quiet" and gas connection kits

Gas Chromatograph DPS 600

Gas Chromatograph DPS 600

The **DPS 600 Series GC > the world's only moduler GC systems.** GC Modules can be mixed to and matched to make 100's of cost matched to make 100's of cost effective, application specific configurations for any G method.

The **DPS 600 Series GC Systems** are new kind of GC. They encompass a state of art space saving expandable chassis at their core. Our plug-and-play modular components allow for unprecedented performance, a yet all of our GC Systems are easier to build, maintain, and upgrade in the field.

The intelligence of the **600 Series GC Systems** are locked safely in microprocessors, where our proprietary Digital Samp Processing routines control the temperatures and gas pressures to tighter specifications than ever before.
The **DPS 600 Series GC** systems specifications are on par with biggest selling GC's in the market, yet they are smaller, lighter, faster, more intelligent, and have good pricing.

Applications : DPS 600 gas chromatograph plays a critical role in quality control of chemistry, medicine and fo industries, and also applicable to quarantine, environment protection, quality supervision,il, petrochemical industry, forens analysis, agriculture and commodity inspection.

DPS 600 Gas Chromatograph

Detector : With 7 detectors to choose from, on-Column or Split/Splitless injectors, and an Autosampler interface. Possibility to install 1-4 detectors from among available
- **FID** : Flame Ionization Detector (100 pg detection limit);
- **PID** : Photoionization Detector (10 pg detection limit);
- **HID** : Helium Ionization Detector (100 pg detection limit);
- **NPD** : Nitrogen Phosphorus Detector (20 pg detection limit)
- **TID** : Thermoionic Detector (20 pg detection limit)
- **BCD** : Bromine Chlorine Detector (10 pg detection limit);
- **FPD** : Flame Photometric Detector (10 ng Sulfur, 10 pg Phosphorus detection limits).

Injector : 1 or 2 installed Split/Splitless and on-column injectors Standard liners, fittings and septum multiple pressure ramps with 0,1 kPa set-point resolution

Pressure control : up to 6 electronic pressure controlers for atmospheric pressure and temperature compensation. EF pressure control with 0,1 kPa set point resolution.

Temperature range : Ambient to 400°C column oven(s) independent control of column oven up to 100C per/min. over ramp

Unique FAST Heating Option : FCO > 200C/min

Communication control, Data transmittion : Control using color touch screen or from computer level

Software : Bi-directional communication with data system Analog and digital signal outputs Start, stop and GC ready output signals Optional autosampler control software
PeakSimple analysis software available as an option

Weight / Dimensions : approx. 25 kg 45 x 45 x 45 cm

Optional equipment : Retrofitting with an autosampler (iquid, headspace, all in one).
A wide selection of generators gases (hydrogen, nitrogen, combined stations)

Gas Chromatograph DPS Companion

DPS Series 600 GC

After years of development and testing, DPS Instruments is pleased to present the newest, most expandable and versatile Gas Chromatography Systems in history. The DPS 600 Series GC systems are the world's only modular GC systems. GC Modules can be mixed to and matched to make 100's of application specific configurations for any GC method! With 7 detectors to choose from, on-Column and Split/Splitless injectors, built-in Sample Concentrators, and an Autosampler interface, we boldly say, "If you can dream it, we can build it!"

The DPS 600 Series GC Systems are a new kind of GC. They contain a state of the art space saving chassis at their core. Our plug-and-play modular components allow for unprecedented performance, which makes all of our GC Systems are easier to build, maintain, and upgrade in the field. The intelligence of the 600 Series GC Systems are locked safely in microprocessors, where our proprietary Digital Sample Processing routines control the temperatures and gas pressures to tighter tolerances than ever before and DSP is what makes our Soft Landing ever so soft.

The DPS 600 Series GC specifications are on par with the biggest selling GC's in the market, yet they are smaller, lighter, faster, more intelligent, and have delightful pricing.

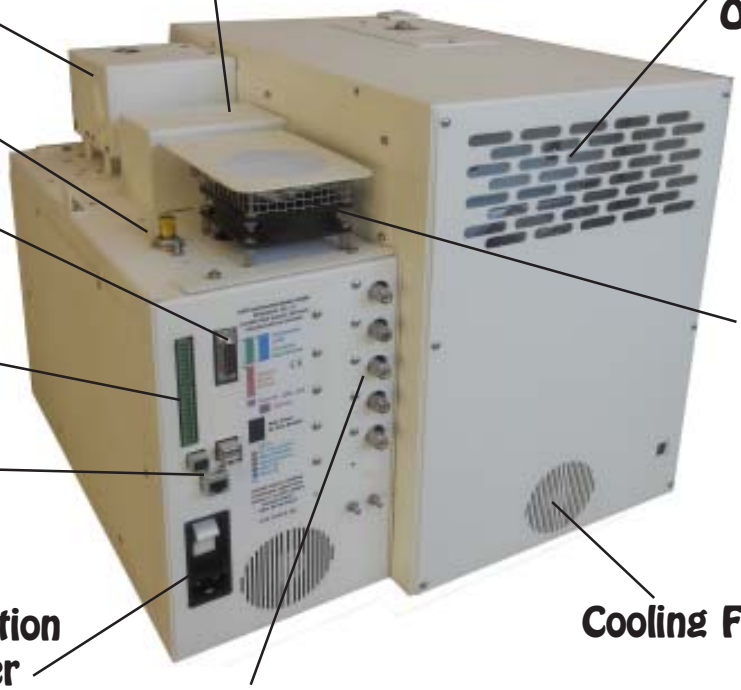
Environmental
Petrochemical,
Pharmaceutical,
Foods & Flavors,
Chemicals,
Personal Care,
Forensics,
...and more!

General Specifications:

- Expandable Modular Design
- 100's of Standard Application Specific Configurations
- Wind Tunnel Oven and Soft Landing
- Color Touch Screen Instrument Control
- Free standing operation with on-board GC Methods
- Proprietary Digital Signal Processing
- Built-in Instrument Diagnostics
- Temperature Control to 0.001 °C
- EPC Pressure Control to 0.001 kPa
- Ambient to 450 °C Column Oven
- Up to 100 °C per/min Column Oven Ramp
- Fast Cooldown 300 °C to 50 °C in < 4 min
- Compact and Lightweight, (45 x 45 x 45 cm), approximately 25 kg

DPS Instruments, Inc.

DPS Series 600 Layout

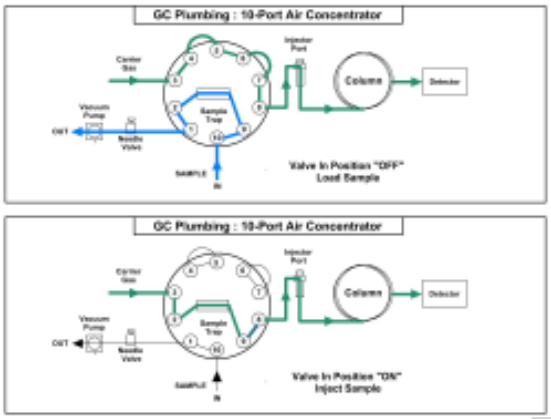


Sample Concentrators

Air Concentrator - The air concentrators for Series 600 GC's are built right in to provide both a compact portable sample concentrator and a shortest possible sample path. The valve and sample lines are heated creating a inert sample path. The sample trap is plumbed in a true backflush fashion and he sample trap also can be equipped with a variety of packing materials to achieve the best concentration of the compounds being analyzed. The sample is loaded with the built-in vacuum pump and regulated with a variable flow controller for consistent sample trapping. The entire sequence of the Air Sample Concentrator is automated through the Timeline of the DPS Control Software for the analysis of one sample, or the system can be set up to run unattended 24/7, collecting and analyzing samples every hour, or so.

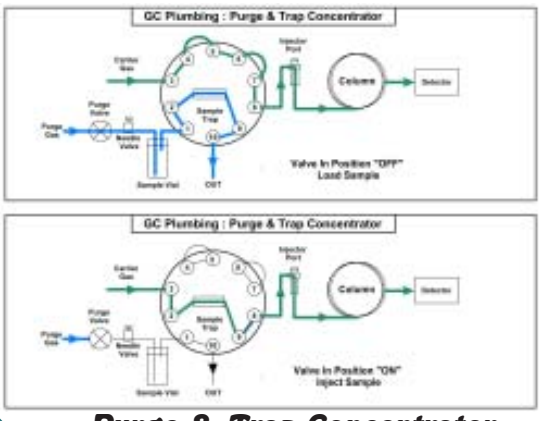
Load - The vacuum pump draws the sample from the inlet through the Trap and then to the flow controller and pump to limit any possible cross contamination between samples.

Inject - The carrier gas sweeps the components from the trap to the analytical column.



Air Concentrator Plumbing Diagram

Change Vials through Cover



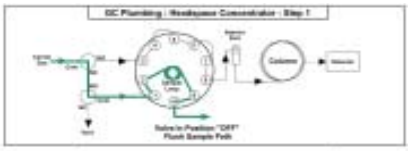
Purge & Trap Concentrator Plumbing Diagram

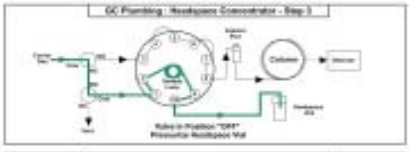
Purge & Trap Concentrator - The Purge & Trap Concentrator for Series 600 GC's are built right in with the same Trap features as the Air Concentrator. The water sample is purged with inert gas to extract the sample compounds and load them onto the Trap. The Purge Gas is regulated with a variable flow controller for consistent sample trapping. The entire sequence of the Purge & Trap Concentrator is automated through the Timeline of the DPS Control Software for the analysis of one sample at a time.

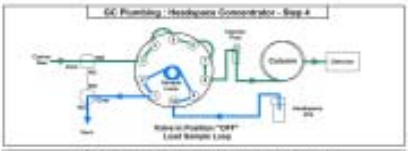
Load - The Purge Valve turns ON to start the stream of gas flowing to the Purge Vial. With this configuration the flow controller is up stream from the Trap to limit any possible cross contamination between samples.

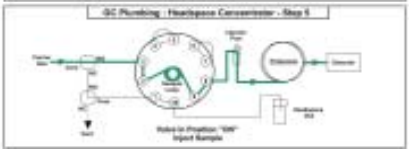
Inject - The carrier gas sweeps the components from the trap to the analytical column. With the Purge Valve OFF there is no flow through the other side of the valve. The Purge Valve can be turned ON to blow out the sample lines using a blank Vial.

Access Vials through Cover









Headspace Plumbing Diagram

Headspace Concentrator - The Headspace Concentrator for Series 600 GC's are built right in to provide the shortest possible sample path. The Sample Vial is heated and then consistently Pressurized before loading the Sample Loop. A fixed Sample Loop ensures reproducible sampling and the sample lines are Flushed between analyses to limit any cross over contamination. The entire sequence of the Headspace Concentrator is automated through the Timeline sequence of DPS GC Control Software for the analysis of one sample at a

Plumbing Diagram - In the 1st sequence the carrier gas is diverted to Flush out the Sample Lines. The Sample Probe is then inserted into the Headspace Vial. During the 2nd step the carrier gas flows to the analytical column and the Headspace Vial is heated with the Vial Heater and allowed to equilibrate. During the 3rd step the Headspace Vial is pressurized for a few seconds. In the 4th step the sample is loaded onto the Sample Loop by releasing the pressure in the headspace vial. In the 5th step the Sample Valve is rotated to the ON position and the carrier gas sweeps the components from the Sample Loop onto the analytical column.

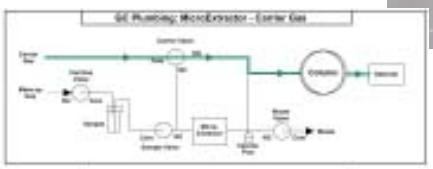
Change Vials through Cover

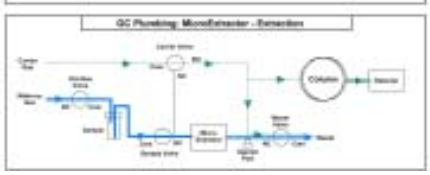
MicroExtractor Concentrator - The MicroExtractor concentrator is a exciting innovcation exclusively from DPS that concentrates higher boiling compounds directly from water samples. The sample vial is pressurized and the water sample is pushed through the trap at ambient temperature where the compounds are concentrated. Later the trap is heated and the compounds are directed to the analytical column. The entire sequence of the MicroExtractor Concentrator is automated through the Timeline of the DPS Control Software.

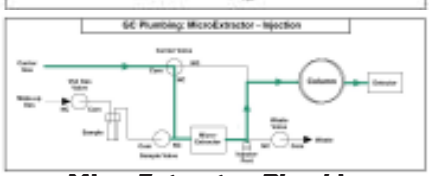
Plumbing Diagram - We use a series of solenoids, instead of a sample valve to control the flow of carrier gas and the water sample flow through the MicroExtractor.

Extraction - The sample vial is pressurized and the water sample flows through the MicroExtractor and then out to waste.

Injection - The carrier gas is directed through the MicroExtractor to sweep the compounds to the analytical column.



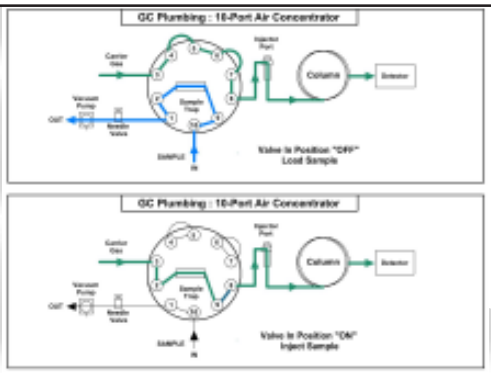




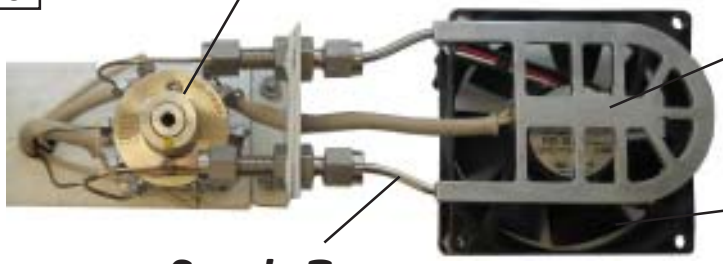
MicroExtractor Plumbing Diagram

DPS Companion Accessories

Innovative Plumbing Schemes



Gas Sample Valve & Trap



GC Autosamplers

Accessory Kits

GC Maintenance Kit

Tools, Keyboard, Mouse, Voltmeter

Gas Line Kit

Regulator, Tubing, Cutters, Fittings

Shipping Kit

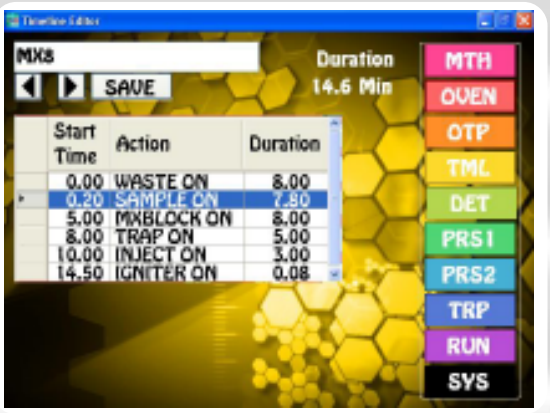
Syringes, Power Cord, Nuts, Ferrules, Screws (Included with each GC)

DPS GC Control Software

Easy to learn and master using a Graphical User Interface (GUI) and Color Touch Screen.

Editors let you customize the files associated with the GC Method.

Oven Temp Program Editor

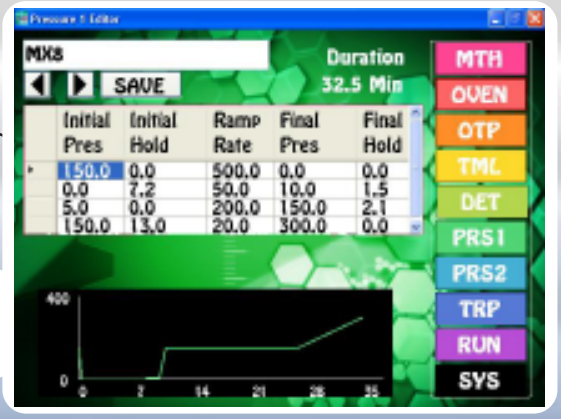


Timeline Editor

Method Name

Save the current name or create a new one

File Selection Arrows



Carrier Pressure 1 Editor

Navigation Buttons to Quickly jump from one screen to another. Most pages are one button away!

Keyboard to Enter Filenames

Number Pad for entering Values

Carrier Pressure 2 Editor

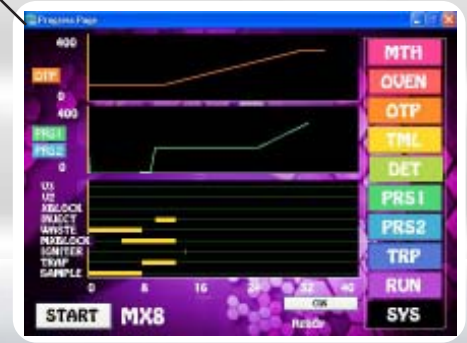
GC Status pages display the parameters in the method, both graphically and as text and values.

Oven Status

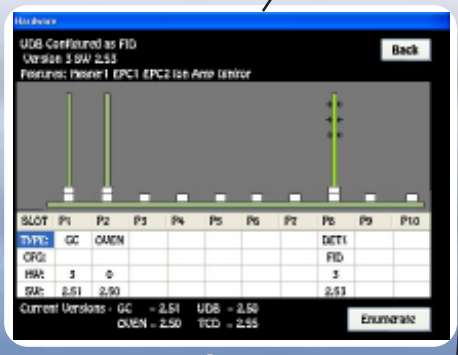
Method Editor

Detector Status

System Status

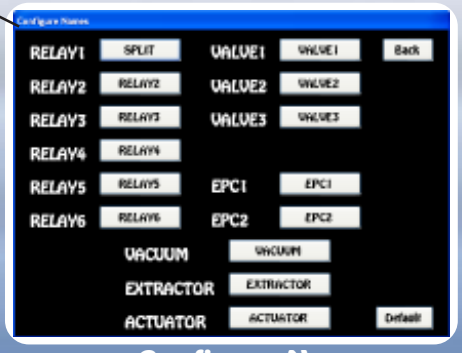


Run Status

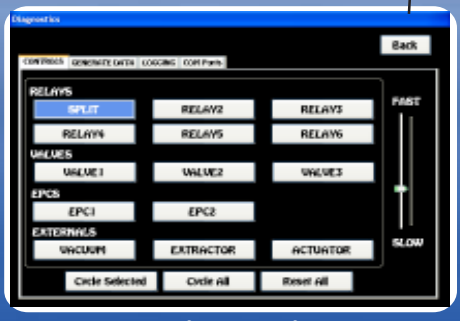


Hardware

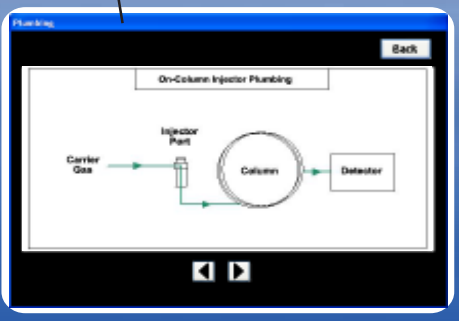
System status pages display the health and viability of the GC instrument.



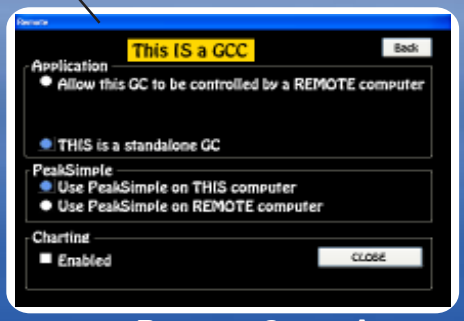
Configure Names



Diagnostics



Plumbing



Remote Control

Specifications may change without notice
05/2020

Series 600 Specifications:

Electronics Module:
- Color Touch Screen Instrument Control
- Enter and store GC Methods via Color Touch Screen
- Actual and set-point display of all GC parameters
- Safety Limits on all user entered parameters
- Oven Temperature Programs (OTP) with Multiple Ramps
- Pressure Programs for Carrier Gases with Multiple Ramps
- Timeline for sequencing Relays, Valves, Traps, etc.
- Detector Control of all Parameters on one page
- Electronic Pressure Controllers (EPC's):
  - Atmospheric Pressure & Temperature Compensation
  - EPC Pressure Control with 0.1 kPa set point resolution
  - 0 to 700 kPa Pressure Control of all Gases
  - Up to 1400 kPa Pressure inlet
- Plug and Play GC Control, Oven, and Detector Boards
- Microprocessor Controlled
- Proprietary Digital Signal Processing
- Standard Interfaces
- Liquid and Headspace Autosamplers
- Remote Start and Stop to other lab instruments
- Digital Signal Outputs for each Detector
- Analog Signal Outputs for each Detector.
- Universal voltage input (85 – 240 Vac) with line filter and breaker.

Detectors:
- 1-4 Detectors Installed
- 400 °C Temperature Limit with 0.1 °C set-point resolution
- Multiple Range Analog Output Selection (0-1V, 0-5V & 0-10V)
- 24-bit Digital Outputs for each detector via USB
- EPC Pressure Control with 0.1 kPa set-point resolution

FID – Flame Ionization Detector (100 pg detection limit)
PID – Photoionization Detector (10 pg detection limit)
HID – Helium Ionization Detector (100 pg detection limit)
NPD – Nitrogen Phosphorus Detector (20 pg detection limit)
TID – Thermoionic Detector (20 pg detection limit)
BCD – Bromine Chlorine Detector (10 pg detection limit)
FPD – Flame Photometric Detector (10 ng Sulfur, 10 pg Phosphorus detection limits)

Oven Module:
- Column Oven:
  - Ambient to 450 °C Column Oven
  - Up to 100 °C per/min Oven Ramp
  - Fast Cooldown 300 °C to 50 °C in 3.5 min
  - 1000 watt total Heater Capacity
  - Temperature Ramps with 0.1 °C set-point resolution
  - 23 x 23 x 20 cm area for Glass, SS, or Capillary Columns

Accessories:
- Sample Valve - Electronically Actuated
- Heated Valve Oven
- Bulit-in Air Compressor
- Air Concentrator
- Headspace Concentrator
- Purge & Trap Concentrator
- MicroExtractor Concentrator
- Methanizer
- Sample Solenoids
- Vacuum Pump for Sample Inlet

Injectors:
- 1 or 2 Installed
- Split/Splitless and Heated On-column Injectors
- Standard Liners, Fittings, and Septum
- Multiple Pressure Ramps with 0.1 kPa set-point resolution
- 400 °C Temperature Limit with 0.1 °C set-point resolution

Autosamplers:
- Liquid Autosampler - 121 Vials, 2 mL
- Headspace Autosampler - 42 Vials, 10 or 20 mL
- Combination Liquid / Headspace Autosampler

Network Connectivity:
- Enterprise Compatible Network GC running imbedded Windows XP
- On Board ETX Computer for GC Control and Data Acquisition
- Ethernet Connection using Windows Network Protocol
- Remote Control of GC and Data Acquisition over LAN

Data Communications:
- Bidirectional communication with Data System
- Analog and Digital Signal Outputs
- Start, Stop & GC Ready Output Signals
- Optional Autosampler Control Software

DPS Series 600 GC

DPS Instruments, Inc.

DPS GC Autosamplers

After extensive development and testing, DPS Instruments is pleased to present the newest HTA Autosamplers for our Series 600 Gas Chromatographs. Whether you choose the HT3000 121 vial Liquid injection autosampler, the HT 2000 Headspace autosampler with 42 vial capacity, your sample throughput is bound to dramatically increase! The HTA line of autosamplers are rugged and dependable and the built-in Touchscreen display makes them easy to use.

The HTA autosamplers mount directly above the GC, so no additional bench space is needed. The mounting platform hardware and cable connections for the HTA line of Autosamplers are standard on all DPS Series 600 GC Systems. This allows the Autosampler to be added with the initial purchase of the GC, or at a later date when sample volumes increase.

Available Autosamplers include:

600-A-050 - HT3000 - 121 vial Liquid Injection
600-A-051 - HT2000 - 42 vial Headspace Injection

No Extra Benchspace Required,
Drastically Increase Sample Throughput,
Add one at any Time...

General Specifications:

HT2000 - Headspace Autosampler

Sampling: 42 Vials 20ml, 6 & 10ml
Syringe Sizes: 2.5mL, 1 & 5mL optional
Syringe Temperature: 40 - 150C
Sample Volume: Steps of 0.01ul
Pull Up Strokes: Up to 15 Strokes
Filling Speed: 0.5 - 100ml/min
Sampling Repeats: Up to 15
Time between Samples: 0 - 100 mins
Injection Speed: 0.5 - 100mls/min
Shaking Method: Orbital
Incubation Oven: 6 position
Oven Temperature: 40 - 170C
Shaker Speed: Very Low to Very High
Shaking Cycles: 0 - 9.9 mins
Injection Depth: Varaible
Electrical Control: LAN & TTL
Dimensions: 330 x 640 x 320mm
Weight: 10.0kg
Power Supply: 100-240VAC, 50-60Hz

HT3000 - Liquid Autosampler

Sampling: 121 Vials, 2ml
Syringe Sizes: 0.5, 1, 5, 10, 25, 50, & 100ul
Sample Volume: Steps of 0.1ul
Air Volume: Steps of 0.1ul
Aspirating Speed: 1 -100 ul/sec
Needle Washing: Up to 15 Strokes
Washing Mode: Pre-Injection, Sample, Post-Injection
Air Bubble Removing: Up to 15 Strokes
Viscosity Time: 0 - 15 secs
Injection Speed: 1 - 100ul/sec
Injection Depth: Varaible
Electrical Control: LAN & TTL
Dimensions: 280 x 570 x 4320mm
Power Supply: 100-240VAC, 50-60Hz

DPS Instruments, Inc.

DPS Companion 1 GC

After years of development and thoughtful consideration, DPS Instruments is pleased to present the newest Portable Companion 1 Gas Chromatograph. The Companion 1 GC was designed to "Go with you Anywhere!" Utilizing the same modular plug and play components found in our full size Series 600 Lab GC's. The performance of the Companion 1 GC has not been compromised because of it's small size.

The DPS Companion 1 GC Systems are a new breed of GC. They are the first portable GC where you can select 1 of 4 available detectors, allowing you to do more work in the field than ever before. From Environmental to Forensic, and Petrochemical to Quality Control Applications, the Companion 1 GC goes where ever you need it.

The intelligence of all the DPS GC Systems are locked safely in microprocessors, where our proprietary Digital Sample Processing routines control the temperatures and gas pressures to tighter tolerances than ever before and DSP is what makes our Soft Landing ever so soft.

The DPS Companion GC specifications are in a league of their own. The Companion 1 GC

DPS Companion 1 GC

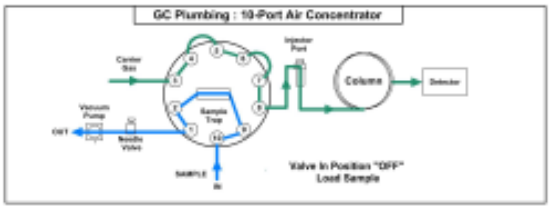
DPS Companion 1 Layout

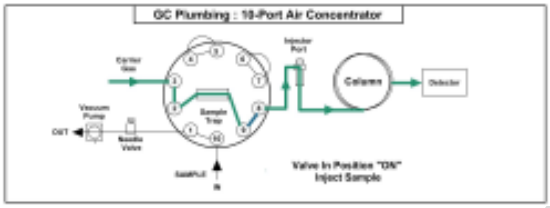
Sample Concentrators

Air Concentrator - The air concentrators for Companion GC's are built right in to provide both a compact portable sample concentrator and a shortest possible sample path. The valve and sample lines are heated creating a inert sample path. The sample trap is plumbed in a true backflush fashion and he sample trap also can be equipped with a variety of packing materials to achieve the best concentration of the compounds being analyzed. The sample is loaded with the built-in vacuum pump and regulated with a variable flow controller for consistent sample trapping. The entire sequence of the Air Sample Concentrator is automated through the Timeline of the DPS Control Software for the analysis of one sample, or the system can be set up to run unattended 24/7, collecting and analyzing samples every hour, or so.

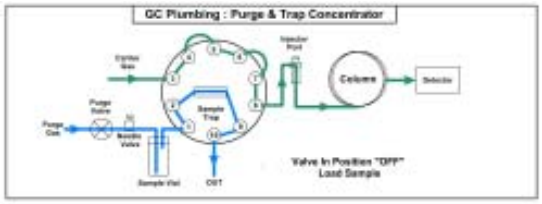
Load - The vacuum pump draws the sample from the inlet through the Trap and then to the flow controller and pump to limit any possible cross contamination between samples.

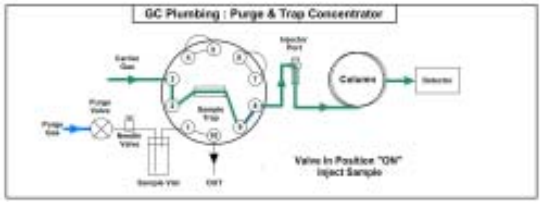
Inject - The carrier gas sweeps the components from the trap to the analytical column.





Air Concentrator Plumbing Diagram



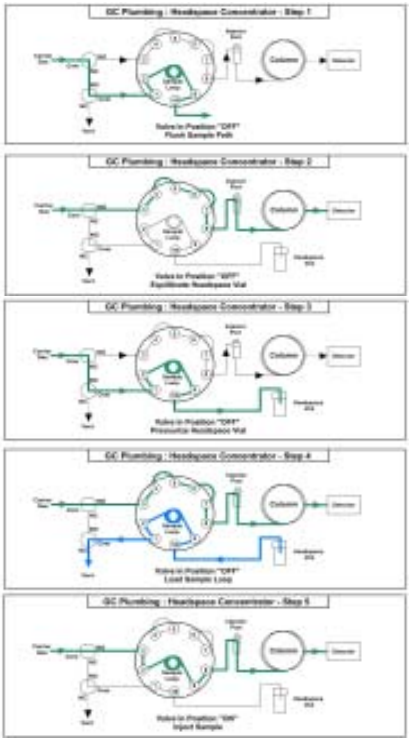


Purge & Trap Concentrator Plumbing Diagram

Purge & Trap Concentrator - The Purge & Trap Concentrator for Companion GC's are built right in with the same Trap features as the Air Concentrator. The water sample is purged with inert gas to extract the sample compounds and load them onto the Trap. The Purge Gas is regulated with a variable flow controller for consistent sample trapping. The entire sequence of the Purge & Trap Concentrator is automated through the Timeline of the DPS Control Software for the analysis of one sample at a time.

Load - The Purge Valve turns ON to start the stream of gas flowing to the Purge Vial. With this configuration the flow controller is up stream from the Trap to limit any possible cross contamination between samples.

Inject - The carrier gas sweeps the components from the trap to the analytical column. With the Purge Valve OFF there is no flow through the other side of the valve. The Purge Valve can be turned ON to blow out the sample lines using a blank Vial.



Headspace Plumbing Diagram

Headspace Concentrator - The Headspace Concentrator for Companion GC's are built right in to provide the shortest possible sample path. The Sample Vial is heated and then consistently Pressurized before loading the Sample Loop. A fixed Sample Loop ensures reproducible sampling and the sample lines are Flushed between analyses to limit any cross over contamination. The entire sequence of the Headspace Concentrator is automated through the Timeline sequence of the DPS GC Control Software for the analysis of one sample at a time.

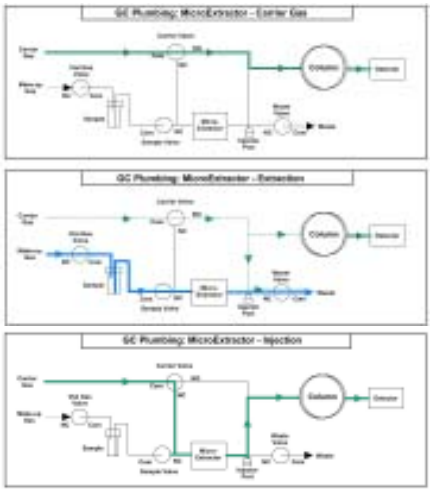
Plumbing Diagram - In the 1st sequence the carrier gas is diverted to Flush out the Sample Lines. The Sample Probe is then inserted into the Headspace Vial. During the 2nd step the carrier gas flows to the analytical column and the Headspace Vial is heated with the Vial Heater and allowed to equilibrate. During the 3rd step the Headspace Vial is pressurized for a few seconds. In the 4th step the sample is loaded onto the Sample Loop by releasing the pressure in the headspace vial. In the 5th step the Sample Valve is rotated to the ON position and the carrier gas sweeps the components from the Sample Loop onto the analytical column.

MicroExtractor Concentrator - The MicroExtractor concentrator is a exciting innovcation exclusively from DPS that concentrates higher boiling compounds directly from water samples. The sample vial is pressurized and the water sample is pushed through the trap at ambient temperature where the compounds are concentrated. Later the trap is heated and the compounds are directed to the analytical column. The entire sequence of the MicroExtractor Concentrator is automated through the Timeline of the DPS Control Software.

Plumbing Diagram - We use a series of solenoids, instead of a sample valve to control the flow of carrier gas and the water sample flow through the MicroExtractor.

Extraction - The sample vial is pressurized and the water sample flows through the MicroExtractor and then out to waste.

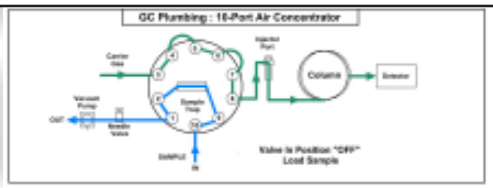
Injection - The carrier gas is directed through the MicroExtractor to sweep the compounds to the analytical column.

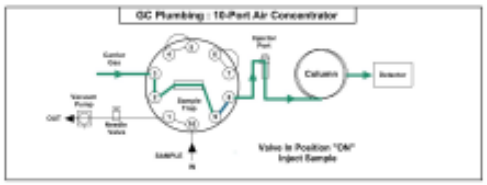


MicroExtractor Plumbing Diagram

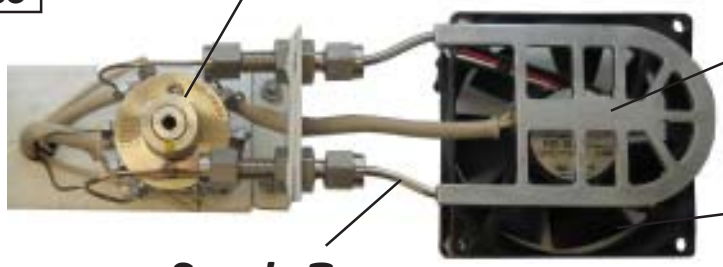
DPS Companion Accessories

Innovative Plumbing Schemes

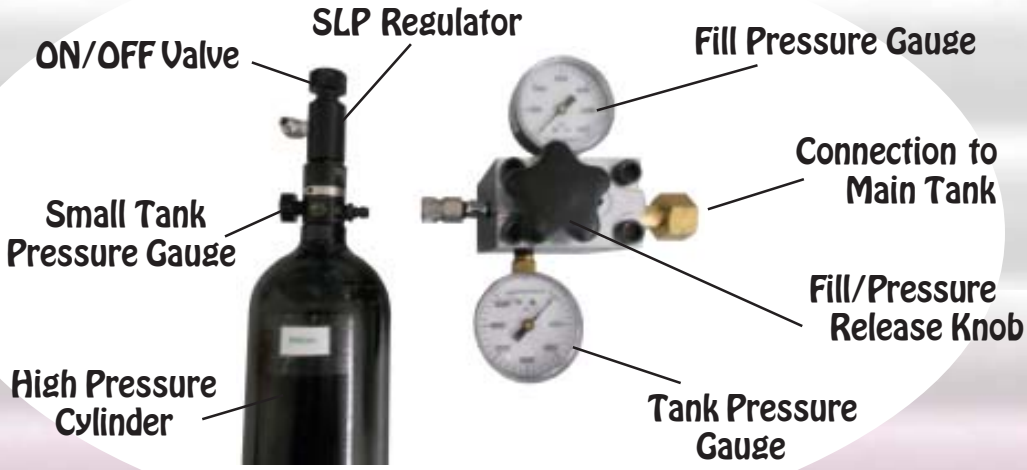




Gas Sample Valve & Trap



Small High Pressure Refill Kit



Accessory Kits

GC Maintenance Kit

Tools, Keyboard, Mouse, Voltmeter

Gas Line Kit

Regulator, Tubing, Cutters, Fittings

Shipping Kit

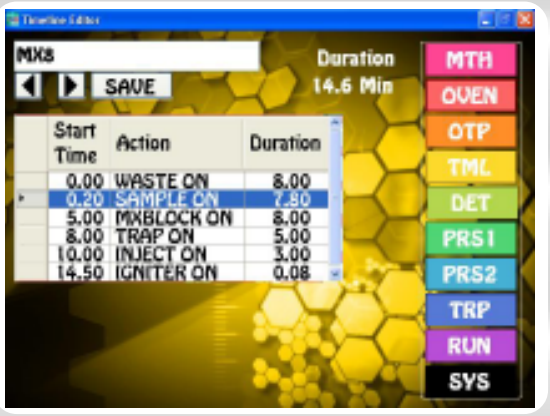
Syringes, Power Cord, Nuts, Ferrules, Screws (Included with each GC)

DPS GC Control Software

Easy to learn and master using a Graphical User Interface (GUI) and Color Touch Screen.

Editors let you customize the files associated with the GC Method.

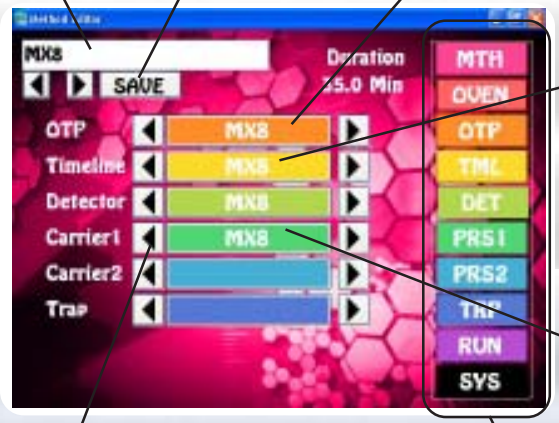
Oven Temp Program Editor



Timeline Editor

Method Name

Save the current name or create a new one



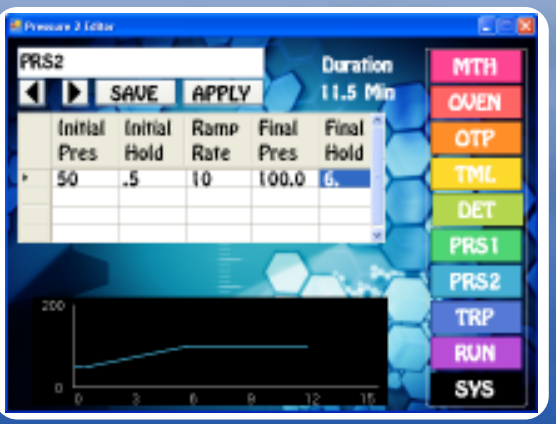
File Selection Arrows

Carrier Pressure 1 Editor

Navigation Buttons to Quickly jump from one screen to another. Most pages are one button away!

Keyboard to Enter Filenames

Number Pad for entering Values



Carrier Pressure 2 Editor

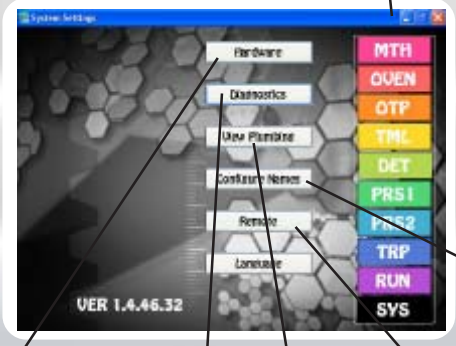
GC Status pages display the parameters in the method, both graphically and as text and values.

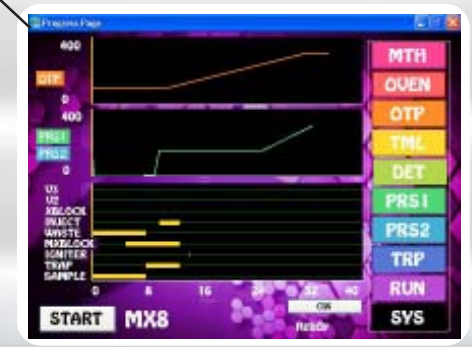
Oven Status

Method Editor

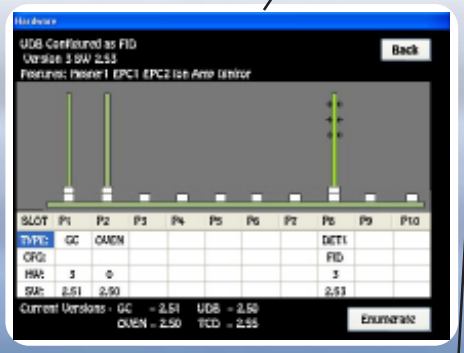
Detector Status

System Status



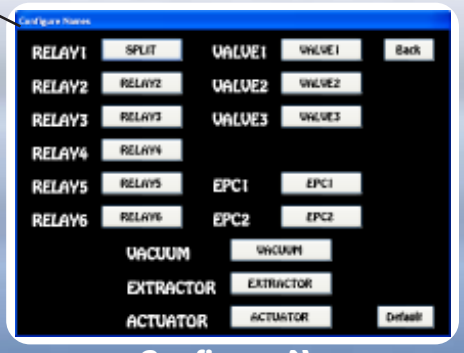


Run Status

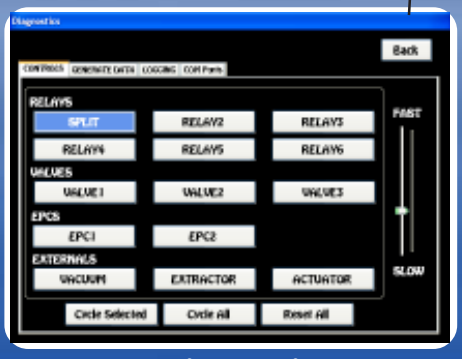


Hardware

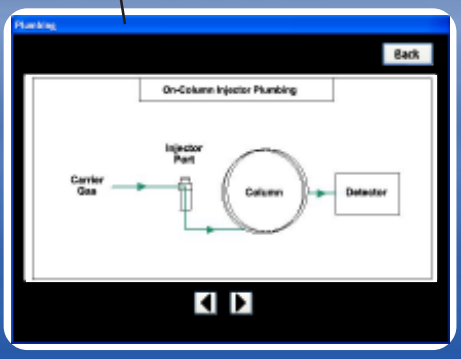
System status pages display the health and viability of the GC instrument.



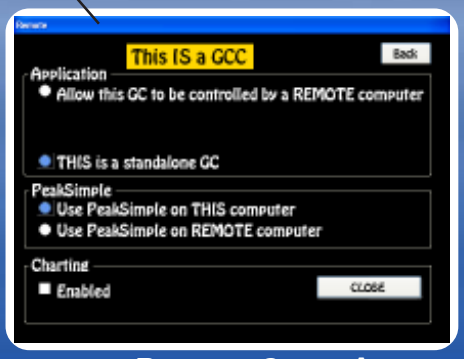
Configure Names



Diagnostics



Plumbing



Remote Control

Specifications may change without notice.
01/2016

Companion 1 Specifications:

Electronics Module:

- Enter and store GC Methods via Color Touch Screen
- Actual and set-point display of all GC parameters
- Safety Limits on all user entered parameters
- Oven Temperature Programs (OTP) with Multiple Ramps
- Pressure Programs for Carrier Gases with Multiple Ramps
- Timeline for sequencing Relays and Valve
- Detector Control of all Parameters on one page
- Electronic Pressure Controllers (EPC's):
  Atmospheric Pressure & Temperature Compensation
  EPC Pressure Control with 0.1 kPa set-point resolution
- Plug and Play GC Control, Oven, and Detector Board
- Microprocessor Controlled
- Proprietary Digital Signal Processing
- Digital Signal Outputs for each Detector
- Universal voltage input (85 – 240 Vac) with line filter and breaker.
- 7 amps at 48 Vdc total power consumption

Detectors:

- 1 Installed
- 400 °C Temperature Limit with 0.1 °C set-point resolution
- 24-bit Digital Outputs for the detector via USB
- EPC Pressure Control with 0.1 kPa set-point resolution

Available Detectors:
FID – Flame Ionization Detector (100 pg detection limit)
PID – Photoionization Detector (10 pg detection limit)
NPD – Nitrogen Phosphorus Detector (20 pg detection limit)
TID – Thermoionic Detector (20 pg detection limit)

Oven Module:

- Ambient to 325 °C Column Oven
- Up to 80 °C per/min Oven Ramp
- Fast Cooldown 325 °C to 50 °C < 4 min
- 200 watt Heater Element
- 12.5 x 10.5 x 12.5 cm area for Packed, or Capillary Columns
- Multiple Temperature Ramps with 0.1 °C set-point resolution

Accessories:

- Sample Valve - Electronically Actuated
- Heated Valve Oven
- Bulit-in Air Compressor
- Air Concentrator
- Headspace Concentrator
- Purge & Trap Concentrator
- MicroExtractor Concentrator
- Methanizer
- Sample Solenoids
- Vacuum Pump for Sample Inlet
- High Pressure Tanks & Refill Station

Injectors:

- 1 or 2 Installed
- Cool On-column Injector
- Heated On-column Injector
- Heated On-column Split/Splitless Injector
- Cool Split/Splitless for Gas Samples
- Multiple Pressure Ramps with 0.1 kPa set-point resolution

Data Communications:

- Bi-directional communication with popular Data System
- Digital Signal Output via USB

Network Connectivity:

- Enterprise Compatible Network GC running Windows XPe
- Ethernet Connection using Windows Network Protocol
- On Board ETX Computer for GC Control and Data Acquisition
- Remote Control of GC and Data Acquisition over LAN

Lab Quality Analyses in the Field,
"It Goes with you Anywhere!"

DPS Instruments, Inc.

DPS Companion 2 GC

The portable Gas Chromatograph is now more versatile than ever. DPS Instruments is pleased to present the newest Portable Companion 2 Gas Chromatograph with room for 2 Detectors. The Companion 2 GC was designed to "Go with you Anywhere!" Utilizing the same modular plug and play components found in our full size Series 600 Lab GC's. The performance of the Companion 2 GC has not been compromised because of it's smaller size.

The DPS Companion 2 GC Systems are a new breed of GC. They are the first portable GC where you can select from 7 available detectors, allowing you to do more work in the field than ever before. From Environmental to Forensic, and Petrochemical to Quality Control Applications, the Companion 2 GC goes where you need it.

The intelligence of the GC Systems are locked safely in microprocessors, where our proprietary Digital Sample Processing routines control the temperatures and gas pressures to tighter tolerances than ever before. The DPS Companion 2 GC specifications are in a league of their own. The Companion 2 GC, and all DPS GC Systems are smaller, lighter, faster, more intelligent, and have delightful pricing.

"Forensic"

"Petrochemical"

"Environmental"

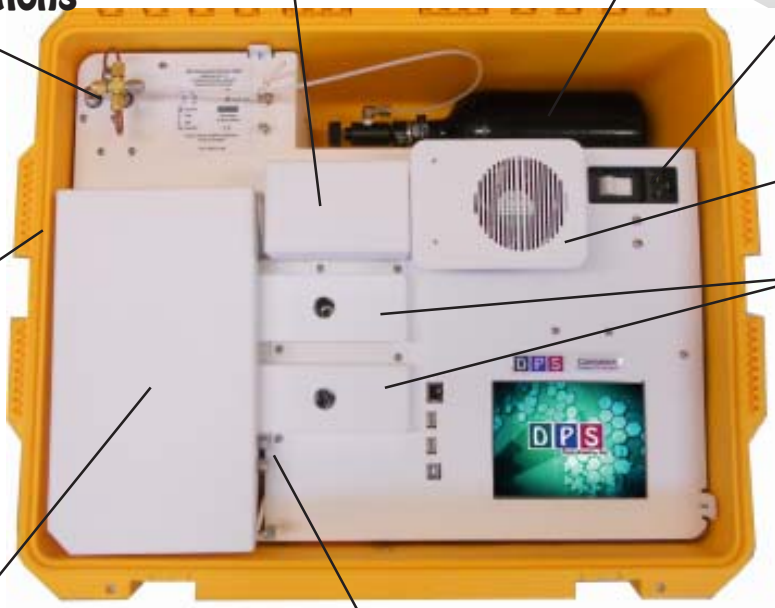
Lab Quality Analyses in the Field, "It Goes with you Anywhere!"

General Specifications:

- Modular Design - Built-in Accessories
- Many Standard Application Specific Configurations
- Compact Oven and Soft Landing
- Color Touch Screen Instrument Control
- Free standing operation with on-board GC Methods
- Proprietary Digital Signal Processing
- Built-in Instrument Diagnostics
- Temperature Control to 0.001 °C
- EPC Pressure Control to 0.001 kPa
- Ambient to 325 °C Column Oven
- Up to 80 °C per/min Column Oven Ramp
- Fast Cooldown 325 °C to 50 °C in < 4 min
- 1 or 2 Detectors
- Compact and Lightweight,
  Water Tight Carrying Case (56 x 43 x 25 cm)
  with wheels and handle Approximately 15 kg.
- 1 or 2 compact gas tanks, sold separately.

DPS Instruments, Inc.

DPS Companion 2 Layout

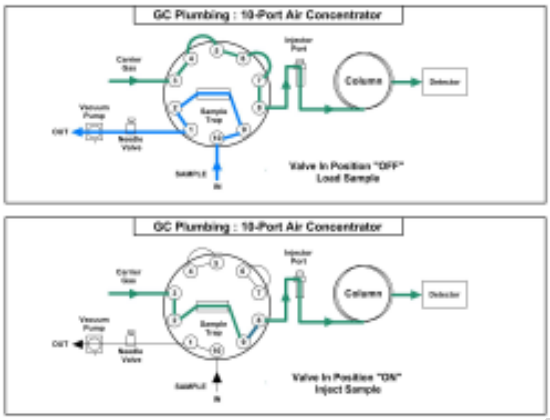


Sample Concentrators

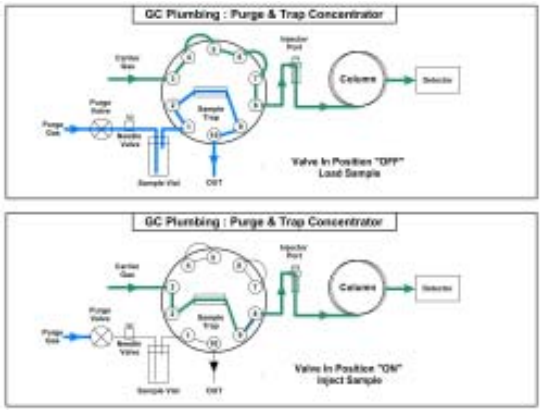
Air Concentrator - The air concentrators for Companion GC's are built right in to provide both a compact portable sample concentrator and a shortest possible sample path. The valve and sample lines are heated creating a inert sample path. The sample trap is plumbed in a true backflush fashion and he sample trap also can be equipped with a variety of packing materials to achieve the best concentration of the compounds being analyzed. The sample is loaded with the built-in vacuum pump and regulated with a variable flow controller for consistent sample trapping. The entire sequence of the Air Sample Concentrator is automated through the Timeline of the DPS Control Software for the analysis of one sample, or the system can be set up to run unattended 24/7, collecting and analyzing samples every hour, or so.

Load - The vacuum pump draws the sample from the inlet through the Trap and then to the flow controller and pump to limit any possible cross contamination between samples.

Inject - The carrier gas sweeps the components from the trap to the analytical column.



Air Concentrator Plumbing Diagram



Purge & Trap Concentrator Plumbing Diagram

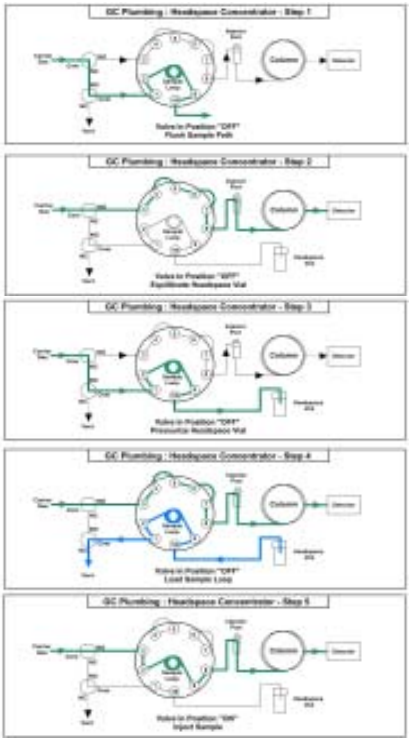
Purge & Trap Concentrator - The Purge & Trap Concentrator for Companion GC's are built right in with the same Trap features as the Air Concentrator. The water sample is purged with inert gas to extract the sample compounds and load them onto the Trap. The Purge Gas is regulated with a variable flow controller for consistent sample trapping. The entire sequence of the Purge & Trap Concentrator is automated through the Timeline of the DPS Control Software for the analysis of one sample at a time.

Load - The Purge Valve turns ON to start the stream of gas flowing to the Purge Vial. With this configuration the flow controller is up stream from the Trap to limit any possible cross contamination between samples.

Inject - The carrier gas sweeps the components from the trap to the analytical column. With the Purge Valve OFF there is no flow through the other side of the valve. The Purge Valve can be turned ON to blow out the sample lines using a blank Vial.

Headspace Concentrator - The Headspace Concentrator for Companion GC's are built right in to provide the shortest possible sample path. The Sample Vial is heated and then consistently Pressurized before loading the Sample Loop. A fixed Sample Loop ensures reproducible sampling and the sample lines are Flushed between analyses to limit any cross over contamination. The entire sequence of the Headspace Concentrator is automated through the Timeline sequence of the DPS GC Control Software for the analysis of one sample at a time.

Plumbing Diagram - In the 1st sequence the carrier gas is diverted to Flush out the Sample Lines. The Sample Probe is then inserted into the Headspace Vial. During the 2nd step the carrier gas flows to the analytical column and the Headspace Vial is heated with the Vial Heater and allowed to equilibrate. During the 3rd step the Headspace Vial is pressurized for a few seconds. In the 4th step the sample is loaded onto the Sample Loop by releasing the pressure in the headspace vial. In the 5th step the Sample Valve is rotated to the ON position and the carrier gas sweeps the components from the Sample Loop onto the analytical column.



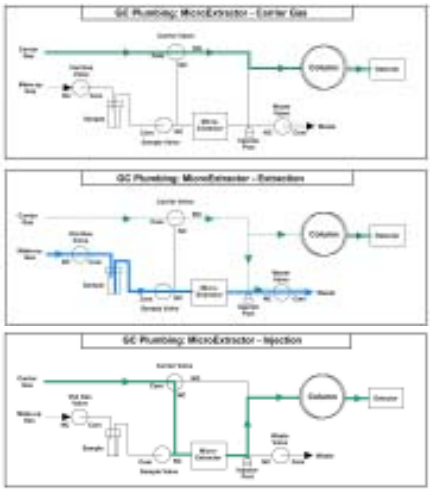
Headspace Plumbing Diagram

MicroExtractor Concentrator - The MicroExtractor concentrator is a exciting innovcation exclusively from DPS that concentrates higher boiling compounds directly from water samples. The sample vial is pressurized and the water sample is pushed through the trap at ambient temperature where the compounds are concentrated. Later the trap is heated and the compounds are directed to the analytical column. The entire sequence of the MicroExtractor Concentrator is automated through the Timeline of the DPS Control Software.

Plumbing Diagram - We use a series of solenoids, instead of a sample valve to control the flow of carrier gas and the water sample flow through the MicroExtractor.

Extraction - The sample vial is pressurized and the water sample flows through the MicroExtractor and then out to waste.

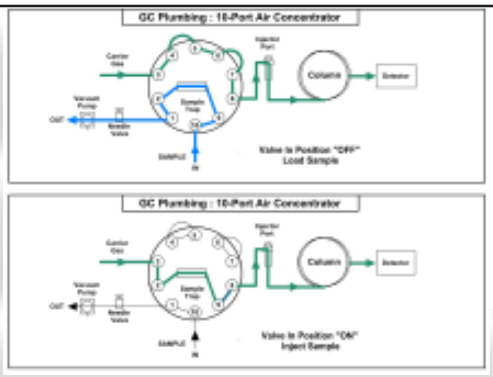
Injection - The carrier gas is directed through the MicroExtractor to sweep the compounds to the analytical column.



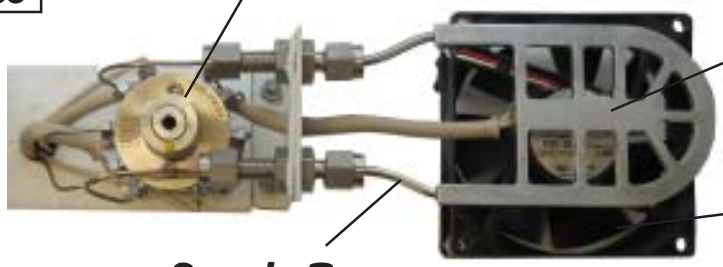
MicroExtractor Plumbing Diagram

DPS Companion Accessories

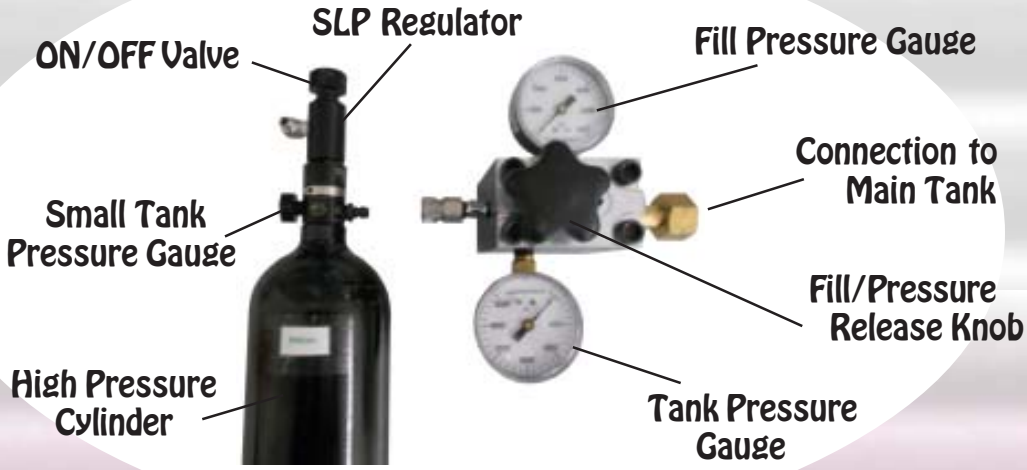
Innovative Plumbing Schemes



Gas Sample Valve & Trap



Small High Pressure Refill Kit



Accessory Kits

GC Maintenance Kit

Tools, Keyboard, Mouse, Voltmeter

Gas Line Kit

Regulator, Tubing, Cutters, Fittings

Shipping Kit

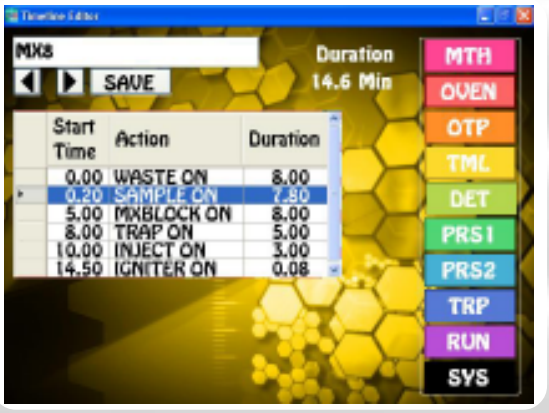
Syringes, Power Cord, Nuts, Ferrules, Screws (Included with each GC)

DPS GC Control Software

Easy to learn and master using a Graphical User Interface (GUI) and Color Touch Screen.

Editors let you customize the files associated with the GC Method.

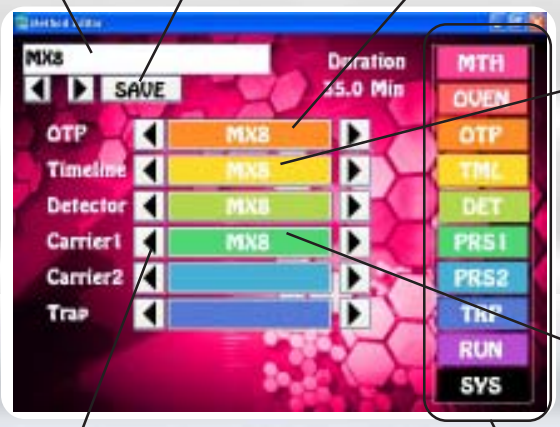
Oven Temp Program Editor



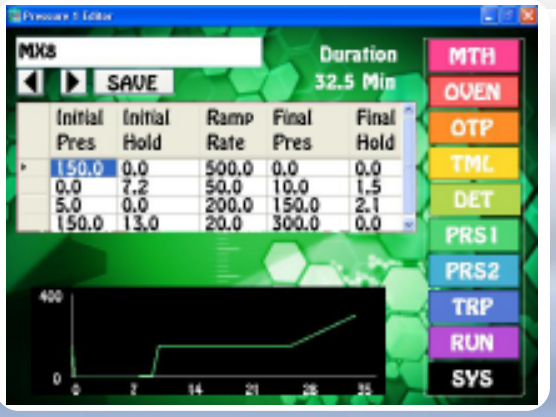
Timeline Editor

Method Name

Save the current name or create a new one



File Selection Arrows



Carrier Pressure 1 Editor

Navigation Buttons to Quickly jump from one screen to another. Most pages are one button away!

Keyboard to Enter Filenames

Number Pad for entering Values

Carrier Pressure 2 Editor

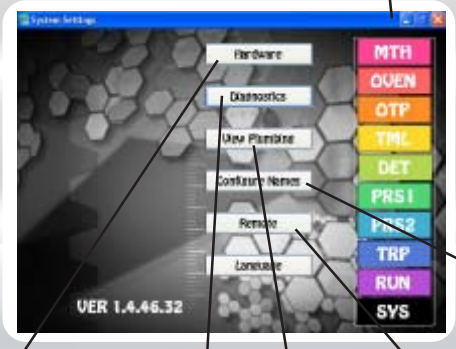
GC Status pages display the parameters in the method, both graphically and as text and values.

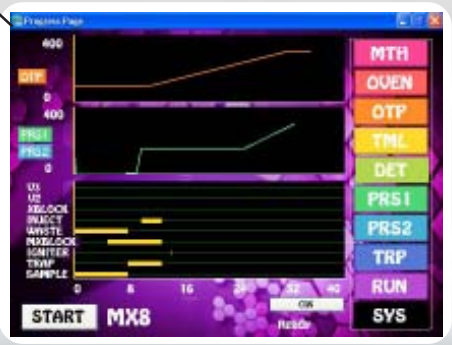
Oven Status

Method Editor

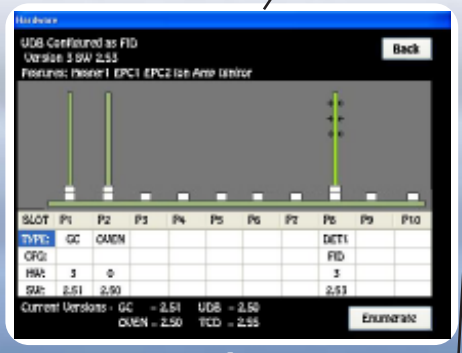
Detector Status

System Status

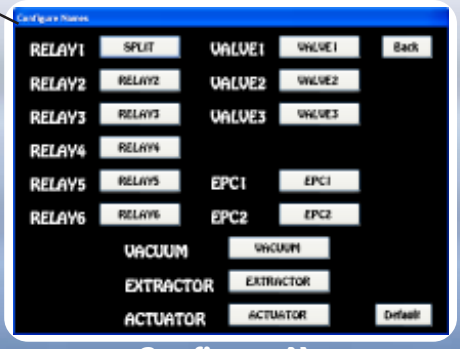




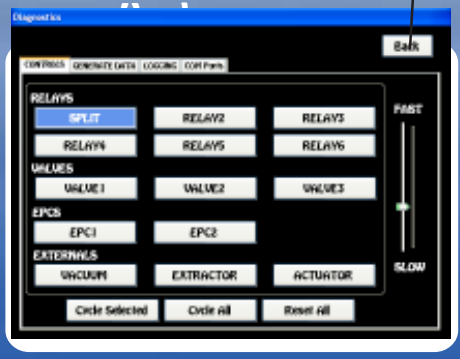
Run Status



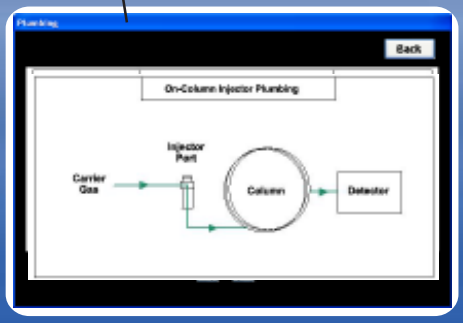
System status pages display the health and viability of the GC instrument.



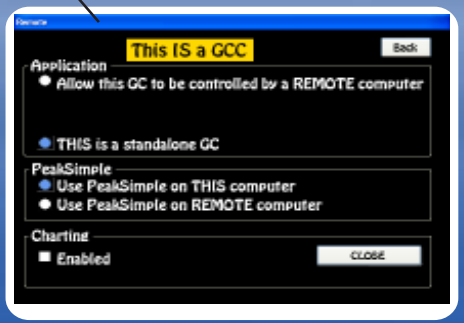
Configure Names



Diagnostics



Plumbing



Remote Control

Companion 2 Specifications:

Electronics Module:
- Enter and store GC Methods via Color Touch Screen
- Actual and set-point display of all GC parameters
- Safety Limits on all user entered parameters
- Oven Temperature Programs (OTP) with Multiple Ramps
- Pressure Programs for Carrier Gases with Multiple Ramps
- Timeline for sequencing Relays and Valve
- Detector Control of all Parameters on one page
- Electronic Pressure Controllers (EPC's):
  Atmospheric Pressure & Temperature Compensation
  EPC Pressure Control with 0.1 kPa set-point resolution
- Plug and Play GC Control, Oven, and Detector Board
- Microprocessor Controlled
- Proprietary Digital Signal Processing
- Digital Signal Outputs for each Detector
- Universal voltage input (85 – 240 Vac) with line filter and breaker.
- 14 amps at 48 Vdc total power consumption

Detectors:
- 1 or 2 Installed
- 400 °C Temperature Limit with 0.1 °C set-point resolution
- 24-bit Digital Outputs for the detector via USB
- EPC Pressure Control with 0.1 kPa set-point resolution

Available Detectors:
FID – Flame Ionization Detector (100 pg detection limit)
PID – Photoionization Detector (10 pg detection limit)
HID – Helium Ionization Detector (100 pg detection limit)
BCD - Bromine Chlorine Detector (10 pg detection limit)
FPD - Flame Photometric Detector (10ng Sulfur, 10 pg Phosphorus detection limit)
NPD – Nitrogen Phosphorus Detector (20 pg detection limit)
TID – Thermoionic Detector (20 pg detection limit)

Oven Module:
- Ambient to 325 °C Column Oven
- Up to 80 °C per/min Oven Ramp
- Fast Cooldown 325 °C to 50 °C < 4 min
- 200 watt Heater Element
- 13.5 x 12.0 x 24.0 cm area for Packed, or Capillary Columns
- Multiple Temperature Ramps with 0.1 °C set-point resolution

Accessories:
- Sample Valve - Electronically Actuated
- Heated Valve Oven
- Bulit-in Air Compressor
- Air Concentrator
- Headspace Concentrator
- Purge & Trap Concentrator
- MicroExtractor Concentrator
- Methanizer
- Sample Solenoids
- Vacuum Pump for Sample Inlet
- High Pressure Tanks & Refill Station

Injectors:
- 1 or 2 Installed
- Cool On-column Injector
- Heated On-column Injector
- Heated On-column Split/Splitless Injector
- Cool Split/Splitless for Gas Samples
- Multiple Pressure Ramps with 0.1 kPa set-point resolution

Data Communications:
- Bi-directional communication with popular Data System
- Digital Signal Output via USB

Network Connectivity:
- Enterprise Compatible Network GC running Windows XPe
- Ethernet Connection using Windows Network Protocol
- On Board ETX Computer for GC Control and Data Acquisition
- Remote Control of GC and Data Acquisition over LAN

Specifications may change without notice.
01/2016

Lab Quality Analyses in the Field,
"It Goes with you Anywhere!"

DPS Instruments, Inc.

DPS Companion 4 GC

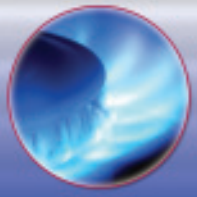
DPS Instruments is pleased to present the new Portable Companion 4 Gas Chromatograph, with up to 4 Micro-TCD Channels. Each Channel contains a Column Oven, Pre-Column, Analytical Column and 2 Micro-TCD detectors. The Companion 4 is designed to "Go with you Anywhere!" Complete with built-in carrier and calibration gases, and a rechargeable battery. The small, rugged, and versatile DPS Companion 4 is perfect for many applications.

In addition, each Channel also connects Injection and Backflush valves offering unattended operation and super-fast analysis times. A built-in Stream Selector automatically loads each sample stream, or calibration gas. Most analyses are completed in seconds and one sample can be injected right after another for Continuous Monitoring applications.

The DPS Companion 4 GC Systems are a new kind of Portable GC. Offering great compound separation power in an ultra-small package. And with 4 Channel capability, even complex analyses can be performed in seconds.

The DPS Companion 4 GC specifications are in a league of their own. And all DPS GC Systems are smaller, lighter, faster, more intelligent, and have delightful pricing.

Permanent Gases



Natural Gas

Mine Safety

Mud Logging

Portable Micro-TCD GC
"It Goes with you Anywhere!"

General Specifications:

General Specifications:

- Rugged Portable Micro-TCD Gas Chromatograph
- Designed for Unattended Continuous Operation
- Most analyses in less than1min
- 1 to 4 GC Column Oven/Micro-TCD Channels
- Integrated 3-Stream Selector
- Automated Calibrations
- Fast & Accurate with Low Maintenance
- Built-in Instrument Diagnostics
- Easy Chromatography Data System
- Temperature Control to 0.001 °C
- Pressure Control to 0.001 kPa
- Ultra Compact and Lightweight
- Water-tight Carrying Case (52 x 40 x 21 cm)
- Approximately 15 kg

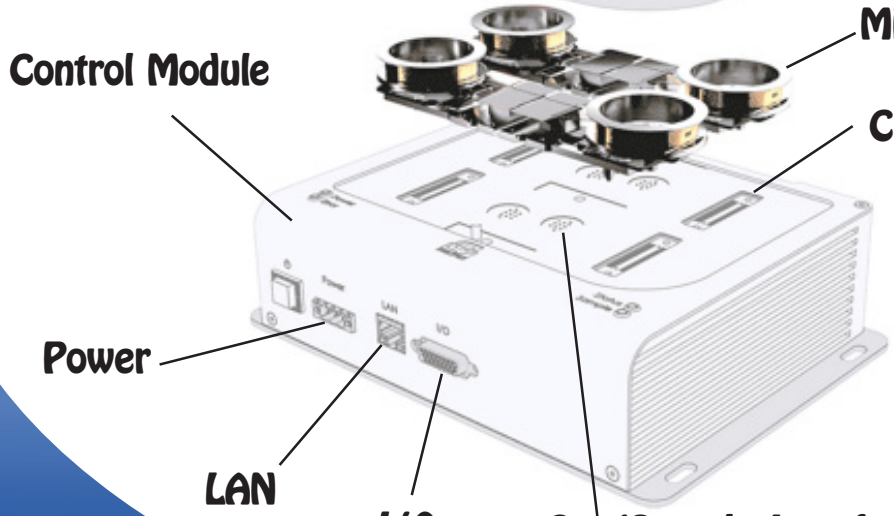
DPS Instruments, Inc.

DPS Companion 4 Layout

DPS Micro

Mounting Plate

Control Software



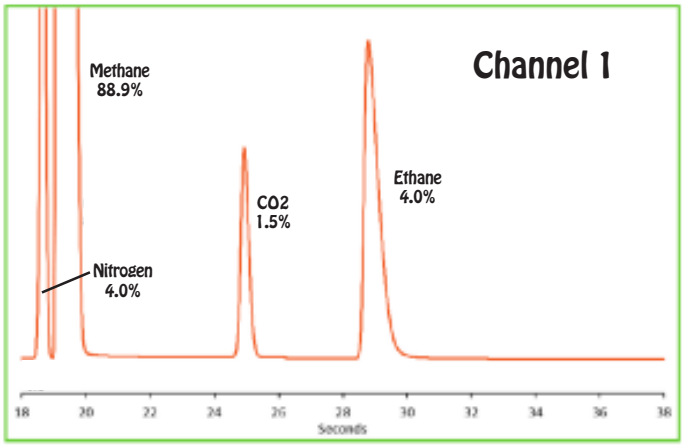
Application Example

Natural Gas Analyzer

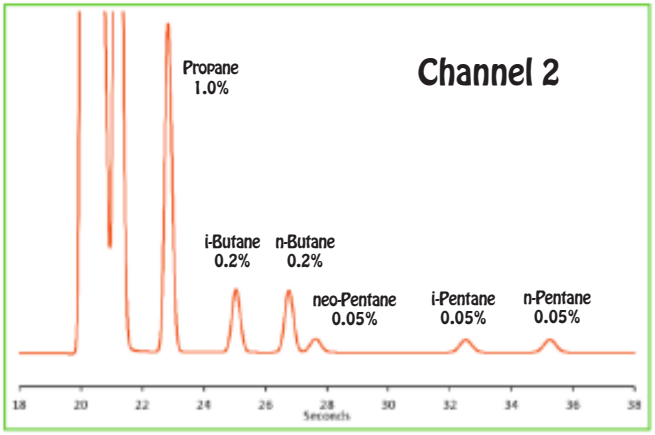
2 Channel Micro-TCD GC - Typically, a 3 Channel Micro GC is needed for a Natural Gas analysis. However, with our unique detector configuration, we only need a 2 Channel GC System.

Every GC Channel includes 2 TCD detectors, one for the Analytical Column and the other for the Pre-column backflush. Using this to our advantage we backflush the C6+ compounds from the 2nd Channel to the Pre-column TCD detector giving us 3 chromatograms of data from a 2 Channel Micro-TCD GC.

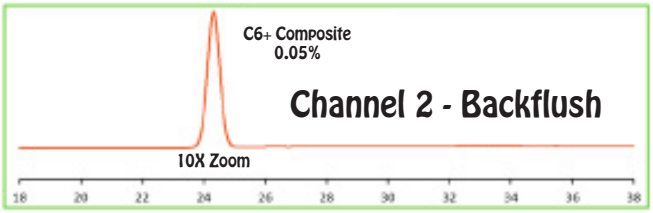
This is just one example of how we reduce Analysis complexity, which saves money and reduces maintenance Costs.



C1 - C2 Hydrocarbons



C3 - C5 Hydrocarbons



C6+ Hydrocarbons

Companion 4 Micro-TCD GC Specifications:

Portable:
- Water-tight Carrying Case (52 x 40 x 21 cm)
- Approximately 15Kg
- Carrier Gas Tanks
- Calibration Gas Tank
- Rechargeable Battery
- Built-in Computer

Micro GC Channels:
- 1- 4 Micro GC Channels in an Exchangeable Cartridge
- Each GC Channel contains GC Oven, Analytical Column, Pre-Column, 2 Micro-TCD Detectors, Electronic & Gas Connectors.

Software/GC Control Interface:
- Enter and store GC Methods via Computer connection
- GC Methods run without Computer connection
- Safety Limits on all user entered parameters
- Communications: RS232, RS485, Ethernet, Digital I/O
- Protocols: Modbus, TCP
- Sequencing for Sampling, Injection, Backflush, etc.
- Memory Storage - up to 256Gb
- Control for Carrier Gas(s)
- Control for Valves (Injection, Backflush, Sample)
- Schedule Auto-calibration
- Control for Stream Selection
- Digital Signal Outputs for each Detector
- Universal voltage input (85 – 240 Vac, 50-60Hz)
- Power Supply - (20 – 28 Vdc)
- Power Consumption - 75 Watts maximum

Detectors:
- 1 - 4 Micro-TCD Detectors Installed
- 2 Micro-TCD´s per Channel (8 total)
- Detection Limit (500ppb - 100%)
- 150 °C Temperature Limit with 0.1 °C set-point resolution

Injectors:
- 1 Micro-machined Injector per Channel
- Sequence Controlled Injection Time

Columns:
- 1 Pre-Column with Backflush per Channel
- 1 Analytical Column
- Isothermal Operation
- Repeatability - < 0.05% RSD
- Cycle Time (Typical) - 15 - 60 sec
- Optional Temperature Program

Control Module:
- Moisture - (5 to 95 %)
- Operating Temperature - (5 to 55 °C)
- Storage Temperature - (-20 to 60 °C)
- Dimensions - 20 X 15 X 10 cm
- Weight - 8 Kg

Gas/Sampling:
- Gas Ports - 1/16"
- Carrier - Helium, Argon, Nitrogen, or Hydrogen
- Carrier Input Pressure - 450 kPa
- Carrier Consumption (Typical) - 15 mls/min
- Sampling - Pressurized or by internal Vacuum Pump

Portable Micro-TCD GC
It Goes with you Anywhere!

DPS Micro-TCD GC

DPS Instruments is pleased to introduce the small, rugged, and versatile DPS Micro-TCD Gas Chromatography Systems, featuring a micro-machined Thermal Conductivity Detector. The DPS Micro-TCD GC can pack 1 to 4 Column Oven/Micro-TCD Channels inside the same Exchangeable cartridge. Each Channel contains a Column Oven, Pre-Column, Analytical Column and 2 Micro-TCD detectors.

In addition, each Channel also connects Injection and Backflush valves offering unattended operation and super-fast analysis times. A built-in Stream Selector automatically loads each sample stream, or calibration gas. Most analyses are completed in seconds and one sample can be injected right after another for Continuous Monitoring applications.

The DPS Micro-TCD GC Systems are a new kind of GC. Offering all of the separation power of our conventional GC System in an ultra-small package, allowing on-line, at-line, or laboratory analyses to be performed almost anywhere. And with 4 Channel capability, even complex analyses can be performed in seconds.

The DPS Micro-TCD GC specifications are on par with the biggest selling Micro GC's in the market, yet they are smaller, lighter, faster, more intelligent, and have delightful pricing.

Permanent Gases,
Light Hydrocarbons,
Natural Gas,
Mud Logging,
Greenhouse Gases,
Mine Safety,
Dissolved Gases,
...and more!

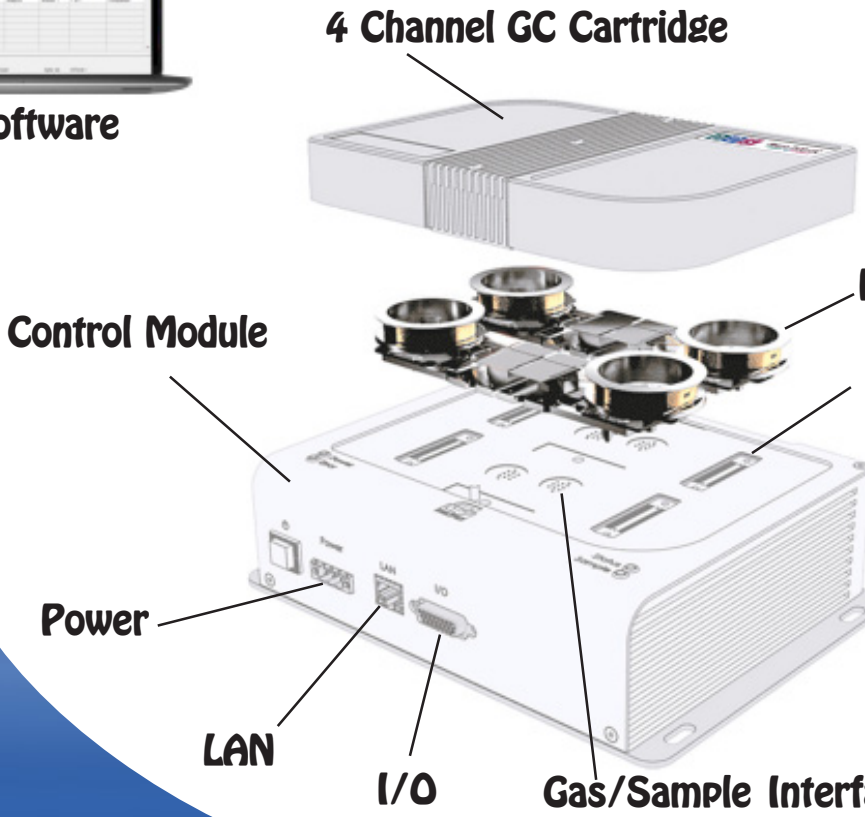
General Specifications:

General Specifications:

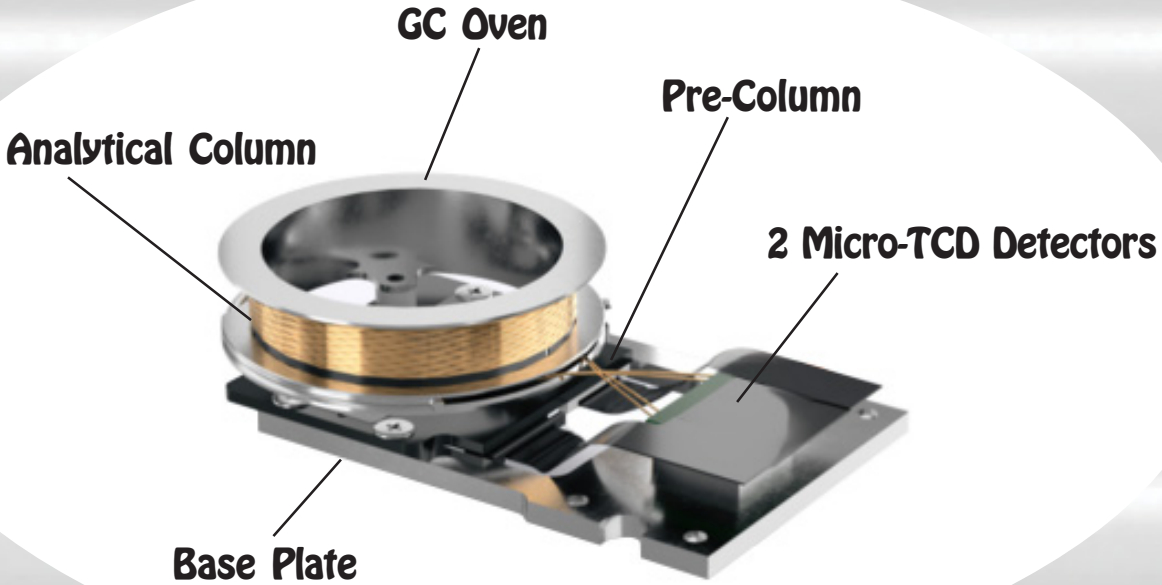
- Rugged Micro-TCD Gas Chromatograph
- Designed for Unattended Continuous Operation
- Most analyses in less than1min
- 1 to 4 GC Column Oven/Micro-TCD Channels
- Integrated 3-Stream Selector
- Automated Calibrations
- Fast & Accurate with Low Maintenance
- Free standing operation with on-board GC Methods
- Built-in Instrument Diagnostics
- Easy Chromatography Data System
- Temperature Control to 0.001 °C
- Pressure Control to 0.001 kPa
- Ultra Compact and Lightweight,

DPS Instruments, Inc.

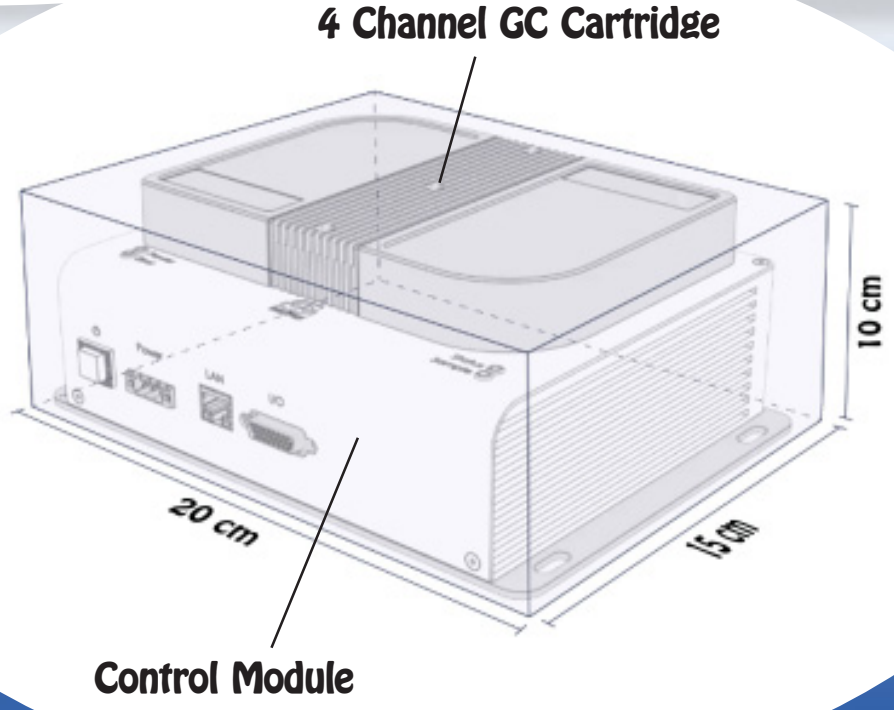
DPS Micro-TCD GC Layout



DPS Micro GC Channel



Micro GC Dimensions



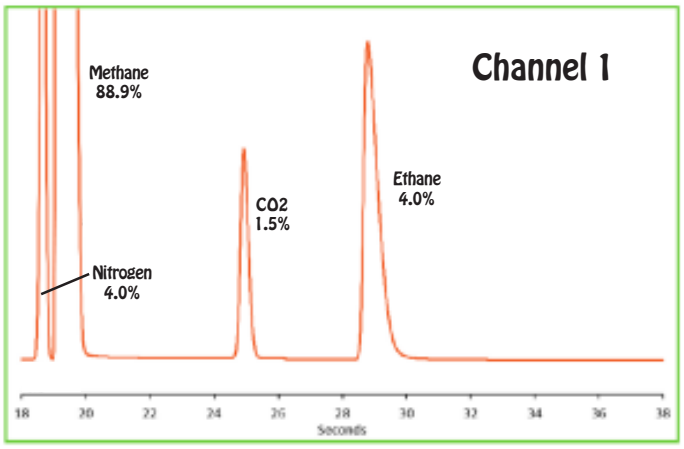
Application Example

Natural Gas Analyzer

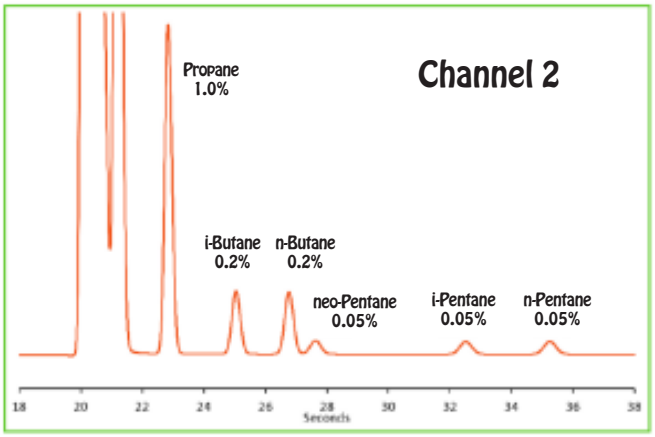
2 Channel Micro-TCD GC - Typically, a 3 Channel Micro GC is needed for a Natural Gas analysis. However, with our unique detector configuration, we only need a 2 Channel GC System.

Every GC Channel includes 2 TCD detectors, one for the Analytical Column and the other for the Pre-column backflush. Using this to our advantage we backflush the C6+ compounds from the 2nd Channel to the Pre-column TCD detector giving us 3 chromatograms of data from a 2 Channel Micro-TCD GC.

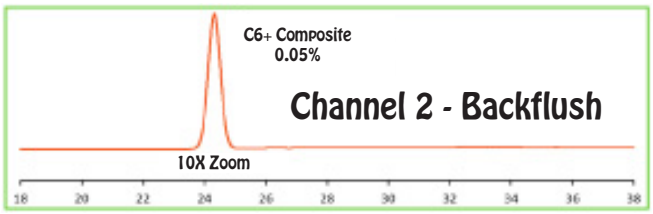
This is just one example of how we reduce Analysis complexity, which saves money and reduces maintenance Costs.



C1 - C2 Hydrocarbons



C3 - C5 Hydrocarbons



C6+ Hydrocarbons

Specifications may change without notice.
10/2022

Micro-TCD GC Specifications:

Micro GC Channels:
- 1- 4 Micro GC Channels in an Exchangeable Cartridge
- Each GC Channel contains GC Oven, Analytical Column,
  Pre-Column, Micro-TCD Detector, Electronic & Gas

Software/GC Control Interface:
- Enter and store GC Methods via Computer connection
- GC Methods run without Computer connection
- Safety Limits on all user entered parameters
- Communications: RS232, RS485, Ethernet, Digital I/O
- Protocols: Modbus, TCP
- Sequencing for Sampling, Injection, Backflush, etc.
- Memory Storage - up to 256Gb
- Control for Carrier Gas(s)
- Control for Valves (Injection, Backflush, Sample)
- Schedule Auto-calibration
- Control for Stream Selection
- Digital Signal Outputs for each Detector
- Universal voltage input (85 – 240 Vac, 50-60Hz)
- Power Supply - (20 – 28 Vdc)
- Power Consumption - 75 Watts maximum

Detectors:
- 1 - 4 Micro-TCD Detector Modules Installed
- 2 Micro-TCD´s per Module (8 total)
- Detection Limit (500ppb - 100%)
- 150 °C Temperature Limit with 0.1 °C set-point resolution

Injectors:
- 1 Micro-machined Injector per Channel
- Sequence Controlled Injection Time

Valve:
- 1 Micro-machined Valve per Channel

Columns:
- 1 Pre-Column with Backflush per Channel
- 1 Analytical Column
- Isothermal Operation
- Repeatability - < 0.05% RSD
- Cycle Time (Typical) - 15 - 60 sec
- Optional Temperature Program

Control Module:
- Moisture - (5 to 95 %)
- Operating Temperature - (5 to 55 °C)
- Storage Temperature - (-20 to 60 °C)
- Dimensions - 20 X 15 X 10 cm
- Weight - 8 Kg

Gas/Sampling:
- Gas Ports - 1/16"
- Carrier - Helium, Argon, Nitrogen, or Hydrogen
- Carrier Input Pressure - 450 kPa
- Carrier Consumption (Typical) - 15 mls/min
- Sampling - Pressurized, or internal Vacuum Pump

DPS Micro-TCD GC

DPS Series 600 GC

After years of development and testing, DPS Instruments is pleased to present the newest, most expandable and versatile Gas Chromatography Systems in history. The DPS 600 Series GC systems are the world's only modular GC systems. GC Modules can be mixed to and matched to make 100's of application specific configurations for any GC method! With 7 detectors to choose from, on-Column and Split/Splitless injectors, built-in Sample Concentrators, and an Autosampler interface, we boldly say, "If you can dream it, we can build it!"

The DPS 600 Series GC Systems are a new kind of GC. They contain a state of the art space saving chassis at their core. Our plug-and-play modular components allow for unprecedented performance, which makes all of our GC Systems are easier to build, maintain, and upgrade in the field. The intelligence of the 600 Series GC Systems are locked safely in microprocessors, where our proprietary Digital Sample Processing routines control the temperatures and gas pressures to tighter tolerances than ever before and DSP is what makes our Soft Landing ever so soft.

The DPS 600 Series GC specifications are on par with the biggest selling GC's in the market, yet they are smaller, lighter, faster, more intelligent, and have delightful pricing.

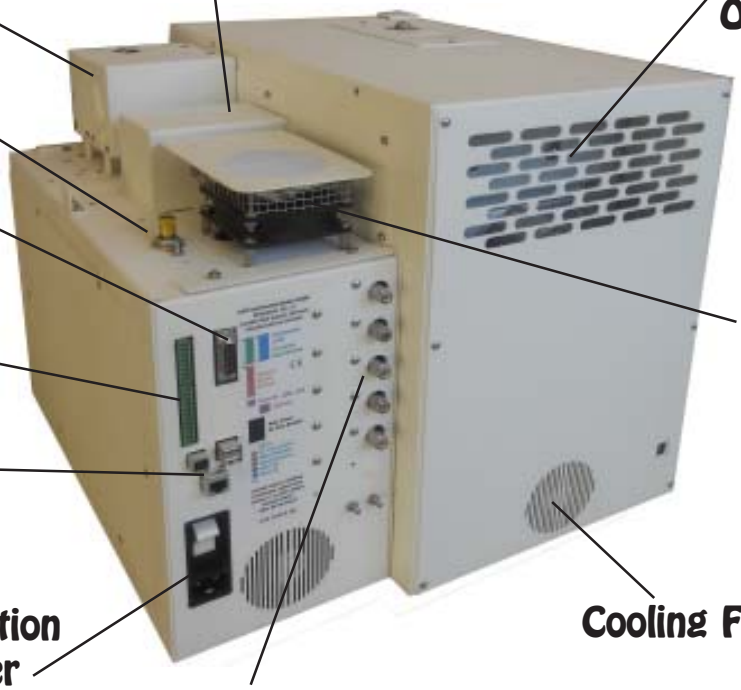
Environmental
Petrochemical,
Pharmaceutical,
Foods & Flavors,
Chemicals,
Personal Care,
Forensics,
...and more!

General Specifications:

- Expandable Modular Design
- 100's of Standard Application Specific Configurations
- Wind Tunnel Oven and Soft Landing
- Color Touch Screen Instrument Control
- Free standing operation with on-board GC Methods
- Proprietary Digital Signal Processing
- Built-in Instrument Diagnostics
- Temperature Control to 0.001 °C
- EPC Pressure Control to 0.001 kPa
- Ambient to 450 °C Column Oven
- Up to 100 °C per/min Column Oven Ramp
- Fast Cooldown 300 °C to 50 °C in < 4 min
- Compact and Lightweight, (45 x 45 x 45 cm), approximately 25 kg

DPS Instruments, Inc.

DPS Series 600 Layout

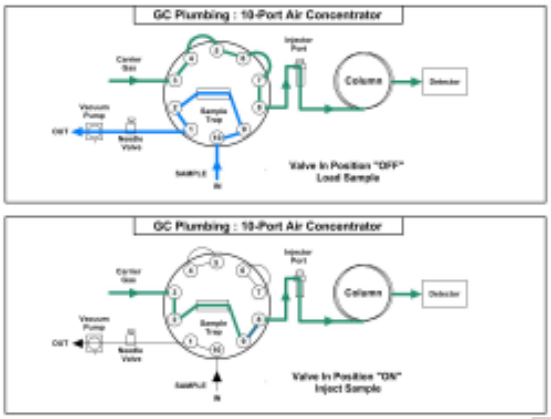


Sample Concentrators

Air Concentrator - The air concentrators for Series 600 GC's are built right in to provide both a compact portable sample concentrator and a shortest possible sample path. The valve and sample lines are heated creating a inert sample path. The sample trap is plumbed in a true backflush fashion and he sample trap also can be equipped with a variety of packing materials to achieve the best concentration of the compounds being analyzed. The sample is loaded with the built-in vacuum pump and regulated with a variable flow controller for consistent sample trapping. The entire sequence of the Air Sample Concentrator is automated through the Timeline of the DPS Control Software for the analysis of one sample, or the system can be set up to run unattended 24/7, collecting and analyzing samples every hour, or so.

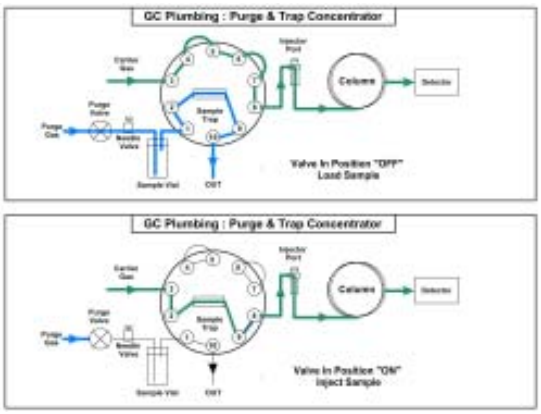
Load - The vacuum pump draws the sample from the inlet through the Trap and then to the flow controller and pump to limit any possible cross contamination between samples.

Inject - The carrier gas sweeps the components from the trap to the analytical column.



Air Concentrator Plumbing Diagram

Change Vials through Cover



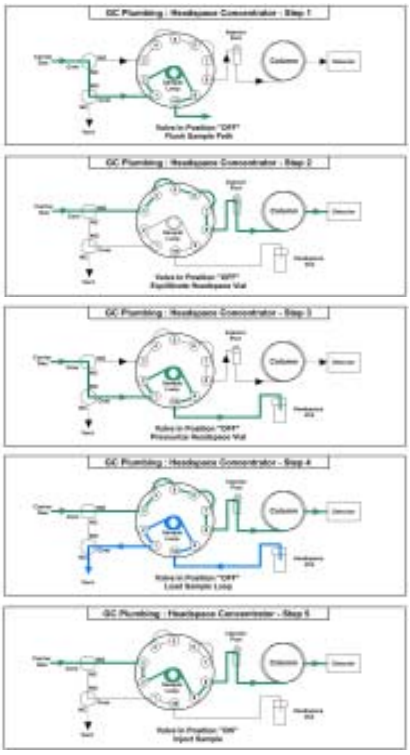
Purge & Trap Concentrator Plumbing Diagram

Purge & Trap Concentrator - The Purge & Trap Concentrator for Series 600 GC's are built right in with the same Trap features as the Air Concentrator. The water sample is purged with inert gas to extract the sample compounds and load them onto the Trap. The Purge Gas is regulated with a variable flow controller for consistent sample trapping. The entire sequence of the Purge & Trap Concentrator is automated through the Timeline of the DPS Control Software for the analysis of one sample at a time.

Load - The Purge Valve turns ON to start the stream of gas flowing to the Purge Vial. With this configuration the flow controller is up stream from the Trap to limit any possible cross contamination between samples.

Inject - The carrier gas sweeps the components from the trap to the analytical column. With the Purge Valve OFF there is no flow through the other side of the valve. The Purge Valve can be turned ON to blow out the sample lines using a blank Vial.

Access Vials through Cover

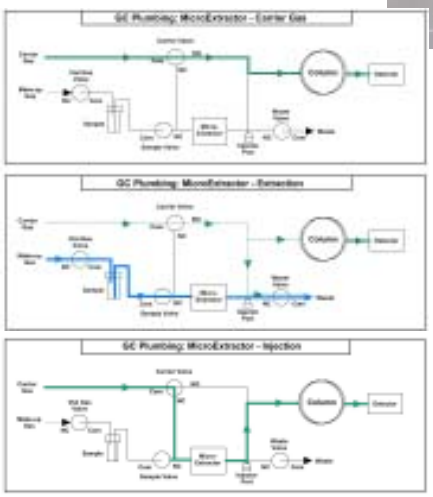


Headspace Plumbing Diagram

Headspace Concentrator - The Headspace Concentrator for Series 600 GC's are built right in to provide the shortest possible sample path. The Sample Vial is heated and then consistently Pressurized before loading the Sample Loop. A fixed Sample Loop ensures reproducible sampling and the sample lines are Flushed between analyses to limit any cross over contamination. The entire sequence of the Headspace Concentrator is automated through the Timeline sequence of DPS GC Control Software for the analysis of one sample at a

Plumbing Diagram - In the 1st sequence the carrier gas is diverted to Flush out the Sample Lines. The Sample Probe is then inserted into the Headspace Vial. During the 2nd step the carrier gas flows to the analytical column and the Headspace Vial is heated with the Vial Heater and allowed to equilibrate. During the 3rd step the Headspace Vial is pressurized for a few seconds. In the 4th step the sample is loaded onto the Sample Loop by releasing the pressure in the headspace vial. In the 5th step the Sample Valve is rotated to the ON position and the carrier gas sweeps the components from the Sample Loop onto the analytical column.

Change Vials through Cover



MicroExtractor Plumbing Diagram

MicroExtractor Concentrator - The MicroExtractor concentrator is a exciting innovcation exclusively from DPS that concentrates higher boiling compounds directly from water samples. The sample vial is pressurized and the water sample is pushed through the trap at ambient temperature where the compounds are concentrated. Later the trap is heated and the compounds are directed to the analytical column. The entire sequence of the MicroExtractor Concentrator is automated through the Timeline of the DPS Control Software.

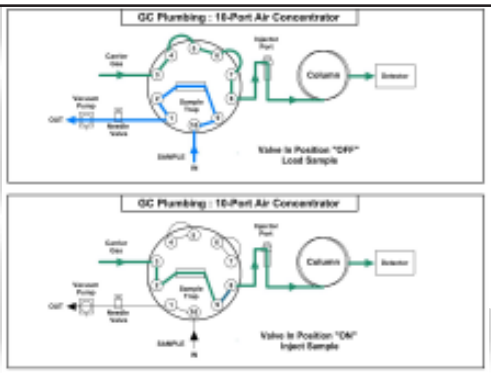
Plumbing Diagram - We use a series of solenoids, instead of a sample valve to control the flow of carrier gas and the water sample flow through the MicroExtractor.

Extraction - The sample vial is pressurized and the water sample flows through the MicroExtractor and then out to waste.

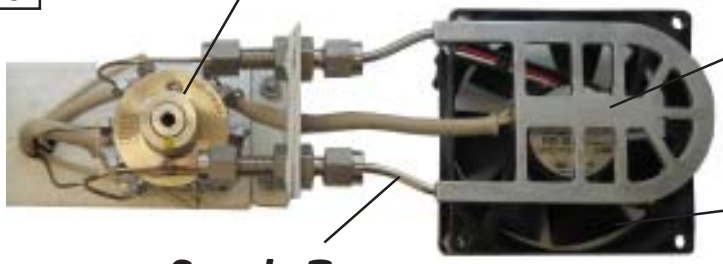
Injection - The carrier gas is directed through the MicroExtractor to sweep the compounds to the analytical column.

DPS Companion Accessories

Innovative Plumbing Schemes



Gas Sample Valve & Trap



GC Autosamplers

Accessory Kits

GC Maintenance Kit

Tools, Keyboard, Mouse, Voltmeter

Gas Line Kit

Regulator, Tubing, Cutters, Fittings

Shipping Kit

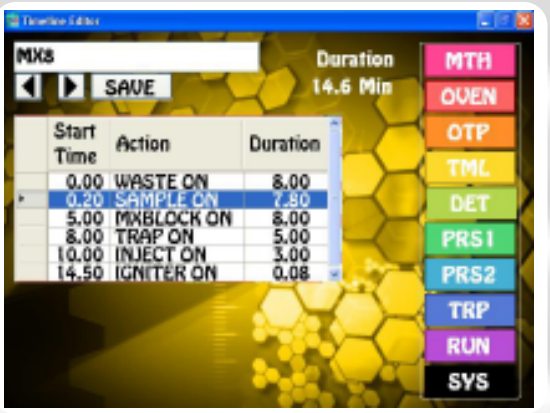
Syringes, Power Cord, Nuts, Ferrules, Screws (Included with each GC)

DPS GC Control Software

Easy to learn and master using a Graphical User Interface (GUI) and Color Touch Screen.

Editors let you customize the files associated with the GC Method.

Oven Temp Program Editor

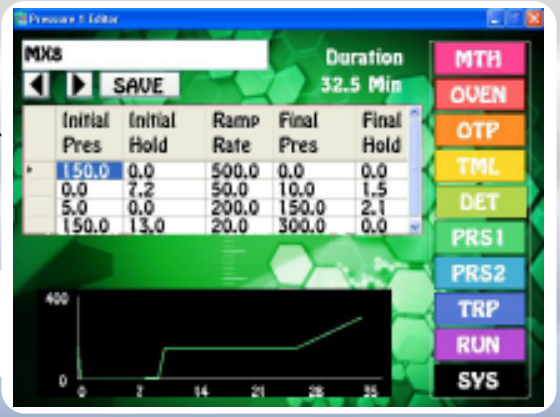


Timeline Editor

Method Name

Save the current name or create a new one

File Selection Arrows



Carrier Pressure 1 Editor

Navigation Buttons to Quickly jump from one screen to another. Most pages are one button away!

Keyboard to Enter Filenames

Number Pad for entering Values

Carrier Pressure 2 Editor

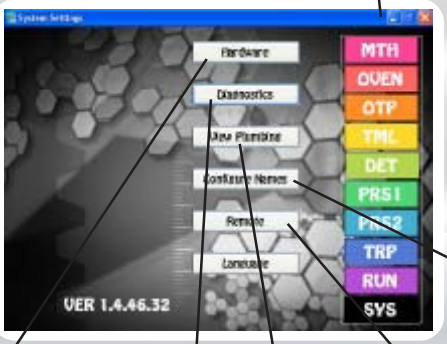
GC Status pages display the parameters in the method, both graphically and as text and values.

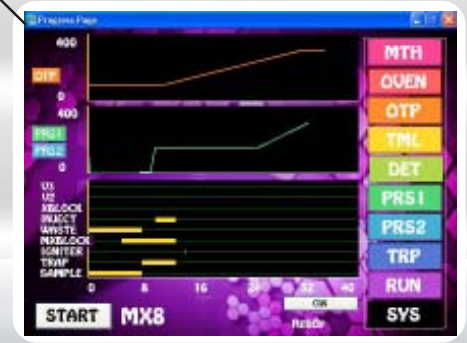
Oven Status

Method Editor

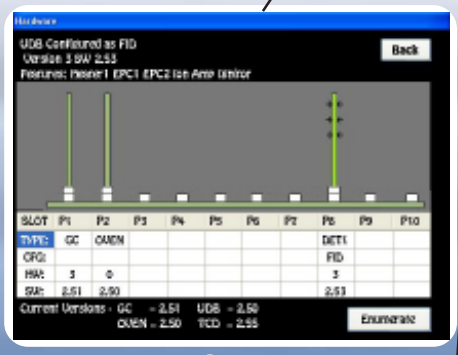
Detector Status

System Status



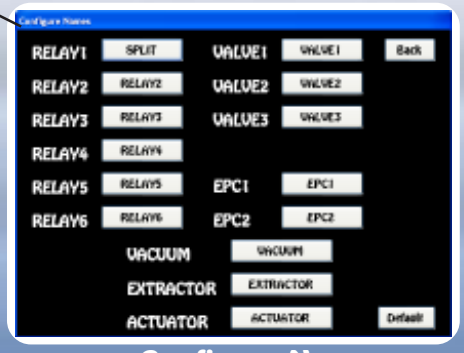


Run Status

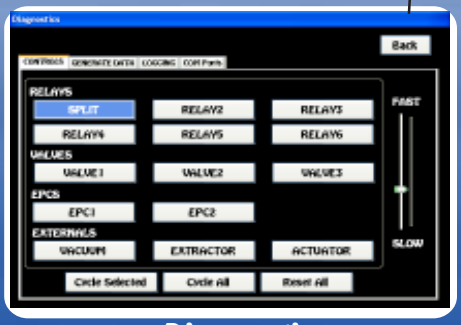


Hardware

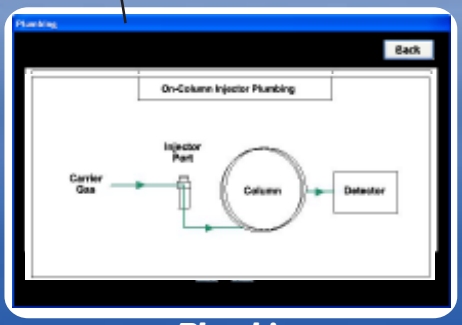
System status pages display the health and viability of the GC instrument.



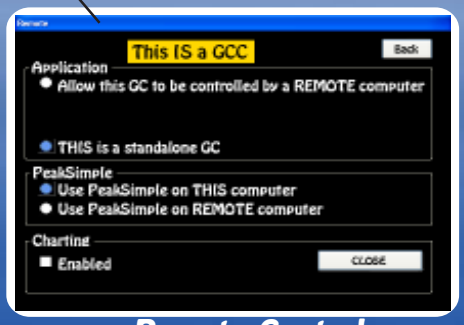
Configure Names



Diagnostics



Plumbing



Remote Control

Specifications may change without notice
05/2020

Series 600 Specifications:

Electronics Module:
- Color Touch Screen Instrument Control
- Enter and store GC Methods via Color Touch Screen
- Actual and set-point display of all GC parameters
- Safety Limits on all user entered parameters
- Oven Temperature Programs (OTP) with Multiple Ramps
- Pressure Programs for Carrier Gases with Multiple Ramps
- Timeline for sequencing Relays, Valves, Traps, etc.
- Detector Control of all Parameters on one page
- Electronic Pressure Controllers (EPC's):
  - Atmospheric Pressure & Temperature Compensation
  - EPC Pressure Control with 0.1 kPa set point resolution
  - 0 to 700 kPa Pressure Control of all Gases
  - Up to 1400 kPa Pressure inlet
- Plug and Play GC Control, Oven, and Detector Boards
- Microprocessor Controlled
- Proprietary Digital Signal Processing
- Standard Interfaces
- Liquid and Headspace Autosamplers
- Remote Start and Stop to other lab instruments
- Digital Signal Outputs for each Detector
- Analog Signal Outputs for each Detector.
- Universal voltage input (85 – 240 Vac) with line filter and breaker.

Detectors:
- 1-4 Detectors Installed
- 400 °C Temperature Limit with 0.1 °C set-point resolution
- Multiple Range Analog Output Selection (0-1V, 0-5V & 0-10V)
- 24-bit Digital Outputs for each detector via USB
- EPC Pressure Control with 0.1 kPa set-point resolution

FID – Flame Ionization Detector (100 pg detection limit)
PID – Photoionization Detector (10 pg detection limit)
HID – Helium Ionization Detector (100 pg detection limit)
NPD – Nitrogen Phosphorus Detector (20 pg detection limit)
TID – Thermoionic Detector (20 pg detection limit)
BCD – Bromine Chlorine Detector (10 pg detection limit)
FPD – Flame Photometric Detector (10 ng Sulfur, 10 pg Phosphorus detection limits)

Oven Module:
- Column Oven:
  - Ambient to 450 °C Column Oven
  - Up to 100 °C per/min Oven Ramp
  - Fast Cooldown 300 °C to 50 °C in 3.5 min
  - 1000 watt total Heater Capacity
  - Temperature Ramps with 0.1 °C set-point resolution
  - 23 x 23 x 20 cm area for Glass, SS, or Capillary Columns

Accessories:
- Sample Valve - Electronically Actuated
- Heated Valve Oven
- Bulit-in Air Compressor
- Air Concentrator
- Headspace Concentrator
- Purge & Trap Concentrator
- MicroExtractor Concentrator
- Methanizer
- Sample Solenoids
- Vacuum Pump for Sample Inlet

Injectors:
- 1 or 2 Installed
- Split/Splitless and Heated On-column Injectors
- Standard Liners, Fittings, and Septum
- Multiple Pressure Ramps with 0.1 kPa set-point resolution
- 400 °C Temperature Limit with 0.1 °C set-point resolution

Autosamplers:
- Liquid Autosampler - 121 Vials, 2 mL
- Headspace Autosampler - 42 Vials, 10 or 20 mL
- Combination Liquid / Headspace Autosampler

Network Connectivity:
- Enterprise Compatible Network GC running imbedded Windows XP
- On Board ETX Computer for GC Control and Data Acquisition
- Ethernet Connection using Windows Network Protocol
- Remote Control of GC and Data Acquisition over LAN

Data Communications:
- Bidirectional communication with Data System
- Analog and Digital Signal Outputs
- Start, Stop & GC Ready Output Signals
- Optional Autosampler Control Software

DPS Series 600 GC

DPS GC Autosamplers

After extensive development and testing, DPS Instruments is pleased to present the newest HTA Autosamplers for our Series 600 Gas Chromatographs. Whether you choose the HT3000 121 vial Liquid injection autosampler, the HT 2000 Headspace autosampler with 42 vial capacity, your sample throughput is bound to dramatically increase! The HTA line of autosamplers are rugged and dependable and the built-in Touchscreen display makes them easy to use.

The HTA autosamplers mount directly above the GC, so no additional bench space is needed. The mounting platform hardware and cable connections for the HTA line of Autosamplers are standard on all DPS Series 600 GC Systems. This allows the Autosampler to be added with the initial purchase of the GC, or at a later date when sample volumes increase.

Available Autosamplers include:

600-A-050 - HT3000 - 121 vial Liquid Injection
600-A-051 - HT2000 - 42 vial Headspace Injection

No Extra Benchspace Required,
Drastically Increase Sample Throughput,
Add one at any Time...

General Specifications:

HT2000 - Headspace Autosampler

Sampling: 42 Vials 20ml, 6 & 10ml
Syringe Sizes: 2.5mL, 1 & 5mL optional
Syringe Temperature: 40 - 150C
Sample Volume: Steps of 0.01ul
Pull Up Strokes: Up to 15 Strokes
Filling Speed: 0.5 - 100ml/min
Sampling Repeats: Up to 15
Time between Samples: 0 - 100 mins
Injection Speed: 0.5 - 100mls/min
Shaking Method: Orbital
Incubation Oven: 6 position
Oven Temperature: 40 - 170C
Shaker Speed: Very Low to Very High
Shaking Cycles: 0 - 9.9 mins
Injection Depth: Varaible
Electrical Control: LAN & TTL
Dimensions: 330 x 640 x 320mm
Weight: 10.0kg
Power Supply: 100-240VAC, 50-60Hz

HT3000 - Liquid Autosampler

Sampling: 121 Vials, 2ml
Syringe Sizes: 0.5, 1, 5, 10, 25, 50, & 100ul
Sample Volume: Steps of 0.1ul
Air Volume: Steps of 0.1ul
Aspirating Speed: 1 -100 ul/sec
Needle Washing: Up to 15 Strokes
Washing Mode: Pre-Injection, Sample, Post-Injection
Air Bubble Removing: Up to 15 Strokes
Viscosity Time: 0 - 15 secs
Injection Speed: 1 - 100ul/sec
Injection Depth: Varaible
Electrical Control: LAN & TTL
Dimensions: 280 x 570 x 4320mm
Power Supply: 100-240VAC, 50-60Hz

DPS Instruments, Inc.

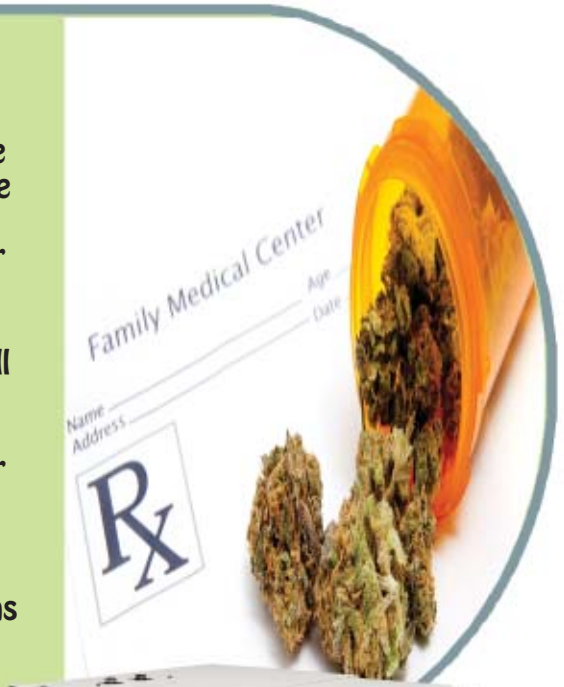
Pharmaceuticals

Cannabis - Medical Marijuana

DPS Instruments, Inc.

www.dps-instruments.com

Medical cannabis, also referred to as medical marijuana, refers to the use of constituents of cannabis, THC and other cannabinoids, as a physician-recommended form of medicine therapy. The medicinal value of cannabis has several well-documented beneficial effects, such as the amelioration of nausea and vomiting, stimulation of hunger in chemotherapy and AIDS patients, lowered intraocular eye pressure for treating glaucoma, as well as general analgesic pain relieving effects. DPS has configured the Cannabis GC Systems with the sensitive FID detector to identify the major cannabinoids THC, CBD, and CBN as well as identifying and determining Terpene concentrations. For extra product safety we can add our ultra-sensitive BCD Detector to analyze for Pesticide contamination at the same time. The Series 600 GC is for analyses in the lab, or use the Portable Companion 2 GC System for analyses in the growing fields, or at the dispensary. The fast heating and rapid cooling column oven in every DPS GC vastly increases your sample throughput. The fully integrated Cannabis GC Analyzer Systems are small and lightweight and all DPS systems are modular for expandability, upgrades, and easy service.



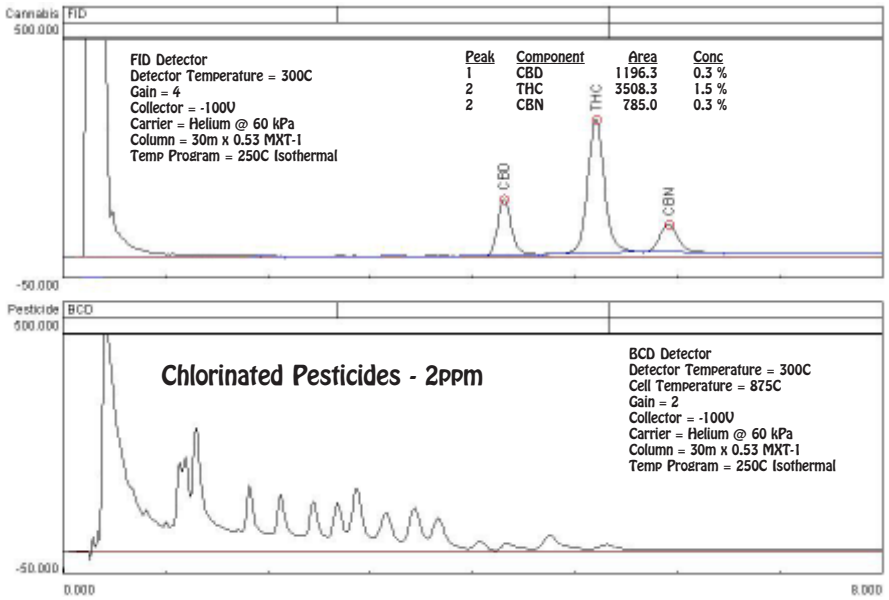
Series 600 GC

Available Configurations Include:

600-C-107 - Series 600 Cannabis GC Analyzer (FID, BCD, 2 x 30m)
500-C2-107 - Companion 2 Portable Cannabis GC Analyzer
(FID, BCD, 2 x 30m)

Companion 2 Portable GC

Cannabinoids & Pesticides



11/2015
Specifications may change without notice.

Foods, Flavors, & Fragrances

Cork Taint

DPS Instruments, Inc.

www.dps-instruments.com

You've opened a bottle of wine that should be outstanding, but when you put your nose to the glass, it smells like something rotting in a damp basement. The problem is most likely TCA, which is 2,4,6-Trichloroanisole, a chemical so powerful that even at parts per billion (ppb), it can cause musty aromas and flavors in wines. The compound forms through the interaction of plant phenols, chlorine, and mold and most frequently occurs in natural corks. DPS has configured the Cork Taint GC System to detect this nasty smell in wine. Our sensitive PID detector and ultra-sensitive BCD detector are ideal for identifying TCA and other Chlorinated Phenols in the low (ppb) to high parts per trillion (ppt) levels. We offer Cork Taint GC Systems with both PID and BCD detectors, or just the BCD alone, which is blind to the non-chlorinated compounds in wine. The fast heating and rapid cooling column oven in every DPS GC vastly increases your sample throughput. The fully integrated Cork Taint GC Analyzer Systems are small and lightweight and all DPS systems are modular for expandability, upgrades, and easy service.

Available Configurations Include:

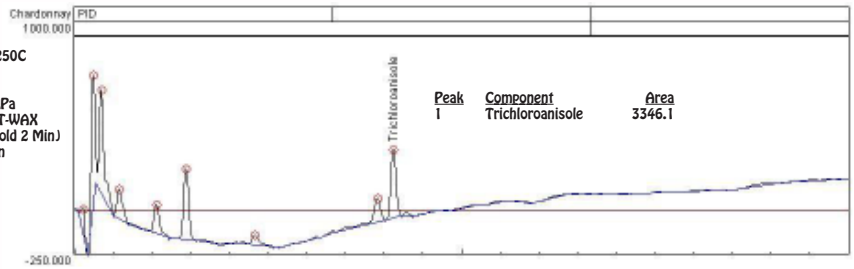
600-C-052 - Series 600 Cork Taint GC Analyzer (PID, BCD, 30m)
500-C2-052 - Companion 2 Portable Cork Taint GC Analyzer (PID, BCD, 30m)
500-C2-053 - Companion 2 Portable Cork Taint GC Analyzer (BCD, 30m)

Series 600 GC

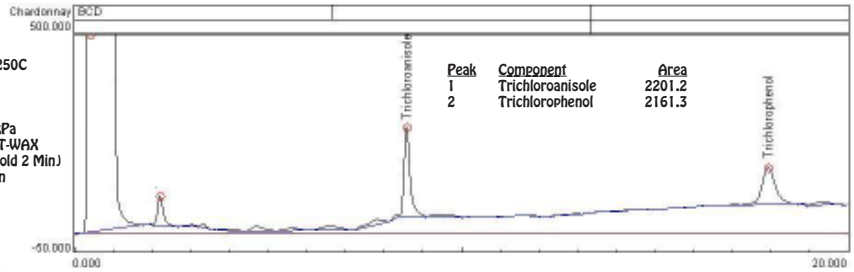
Trichloroanisole (TCA) in Chardonnay - 1 ppb

Companion 2 Portable GC

PID Detector
Detector Temperature = 250C
Gain = 6
Collector = -100V
Carrier = Helium @ 160 kPa
Column = 30m x 0.53 MXT-WAX
Temp Program = 100C (hold 2 Min) to 240C @ 10C/min



BCD Detector
Detector Temperature = 250C
Cell Temperature = 825C
Gain = 2
Collector = -100V
Carrier = Helium @ 160 kPa
Column = 30m x 0.53 MXT-WAX
Temp Program = 100C (hold 2 Min) to 240C @ 10C/min



11/2015
Specifications may change without notice.

Foods, Flavors, & Fragrances

Fatty Acid Methyl Esters - FAME's

DPS Instruments, Inc.

www.dps-instruments.com

Fatty acid methyl esters (FAME) are used extensively as intermediates in the manufacture of detergents, emulsifiers, wetting agents, stabilizers, textile treatments, and waxes. FAME's are also used in a variety of food additive applications, including the dehydration of grapes to produce raisins, as synthetic flavoring agents, and as intermediates in the manufacture of a variety of food ingredients. The quality of your product is dependent on maintaining the concentrations of specific FAME compounds. The DPS FAME's GC Analyzers are specifically designed to separate these compounds. Specially designed columns and the sensitive FID detector do the hard work. The Series 600 GC is for analyses in the lab, or use the Portable Companion 1 GC Systems for analyses right where the samples are taken. The fully integrated FAME's GC Analyzer Systems are small and lightweight and all DPS systems are modular for expandability, upgrades, and easy service.

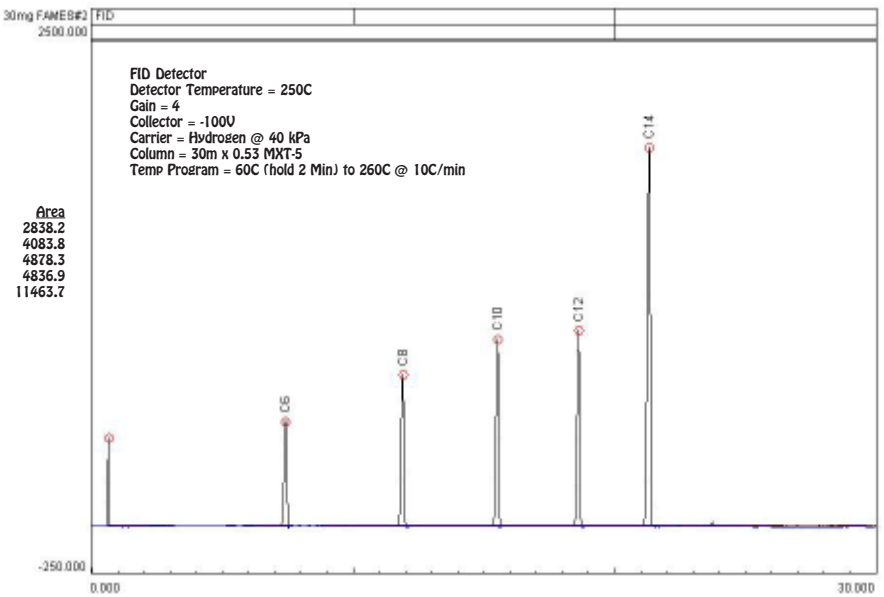
Series 600 GC

Available Configurations Include:

600-C-043 - Series 600 FAME's GC Analyzer (FID, 30m)
500-C-043 - Companion 1 Portable FAME's GC Analyzer (FID, 30m)

Companion 1 Portable GC

Faty Acid Methyl Esters - FAME's - C6 - C14



Peak	Component	Area
1	Methyl Caproate	2838.2
2	Methyl Caprylate	4083.8
3	Methyl Carpate	4878.3
4	Methyl Laurate	4836.9
5	Methyl Myristate	11463.7

11/2015
Specifications may change without notice.

Pharmaceuticals

Steroids

DPS Instruments, Inc.

www.dps-instruments.com

Steroids, androgenic and anabolic, are a class of synthetic drugs related to male sex hormones. Androgenic steroids are used to increase masculine characteristics when the body produces abnormally low amounts of testosterone, such as delayed puberty, some types of impotence, and body wasting, as in patients with AIDS. Anabolic steroids, on the other hand, are used by athletes to enhance performance and also to improve physical appearance. Abuse of anabolic steroids can lead to serious health problems including, liver tumors, cancer, jaundice, fluid retention, high blood pressure, and increased cholesterol. The DPS Steroids GC Systems are configured with the latest designed high resolution capillary columns and the sensitive FID detector to quickly detect these compounds. The Series 600 GC is for analyses in the lab, or use the Portable Companion 1 GC Systems for analyses right where the samples are taken. The fully integrated Steroids GC Analyzer Systems are small and lightweight and all DPS systems are modular for expandability, upgrades, and easy service.

Available Configurations Include:

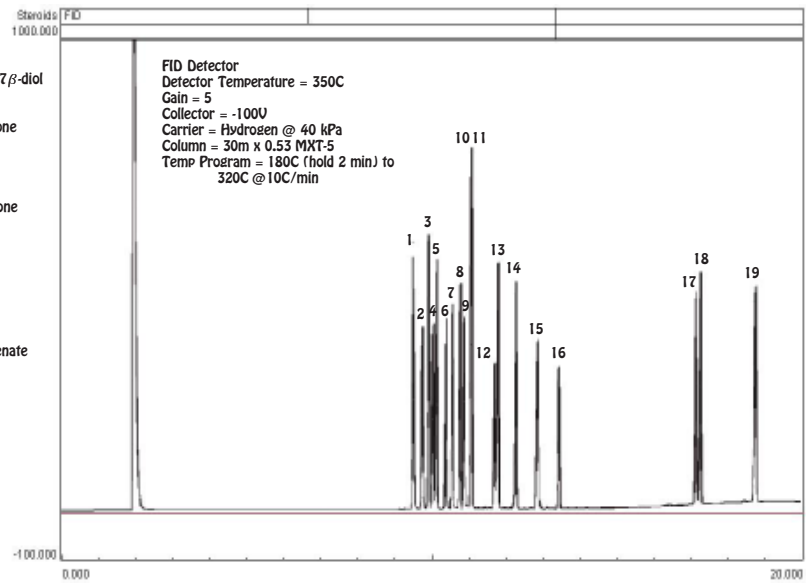
600-C-106 - Series 600 Steroids GC Analyzer (FID, 30m)
500-C-106 - Companion 1 Portable Steroids GC Analyzer (FID, 30m)

Series 600 GC

Companion 1 Portable GC

Steroids

Peak	Component
1	5-Androstene-3β,17β-diol
2	17α-Methyl-5-5androstene-3β,17β-diol
3	5α-Androstan-17β-ol-3-one
4	19-Nortestosteronel
5	17α-Methylandrostan-17β-ol-3-one
6	Mesterolone
7	Testosterone
8	17α-Methyltestosterone
9	1-Dehydrotestosterone
10	1-Dehydro-17α-methyltestosterone
11	Bolasterone
12	Oxymethalone
13	19-Nortestosterone-17-acetate
14	Testosterone Propionate
15	Fluoxymesterone
16	4-Chlorotestosterone-17-acetate
17	Testosterone-17β-cypionate
18	1-Dehydotestosterone Benzoate
19	1-Dehydrotestosterone Undecylenate



11/2015
Specifications may change without notice.

Pharmaceutical

Residual Solvents - Headspace

DPS Instruments, Inc.

www.dps-instruments.com

There is no way around it, residual process solvents are commonly detected in pharmaceutical products. Consequently, many government agencies have made it mandatory to measure the residual solvents for the release testing of all active pharmaceutical ingredients. Analyses are also routinely performed on process intermediates used during the drug synthesis. The help with these regulations the DPS Residual Solvents GC Analyzers use a built-in Headspace Concentrator to fully automate the sampling and analysis and a sensitive FID detector for low level detection of these residual solvents. Liquid samples can also be analyzed in these GC Analyzers by direct injection. The Series 600 GC is for analyses in the lab, or use the Portable Companion 2 GC Systems for analyses right where the samples are taken. The fully integrated Residual Solvents GC Analyzer Systems are small and lightweight and all DPS systems are modular for expandability, upgrades, and easy service.

Available Configurations Include:

600-C-145 - Series 600 Residual Solvents GC Analyzer (FID, Headspace Concentrator, 30m Column)

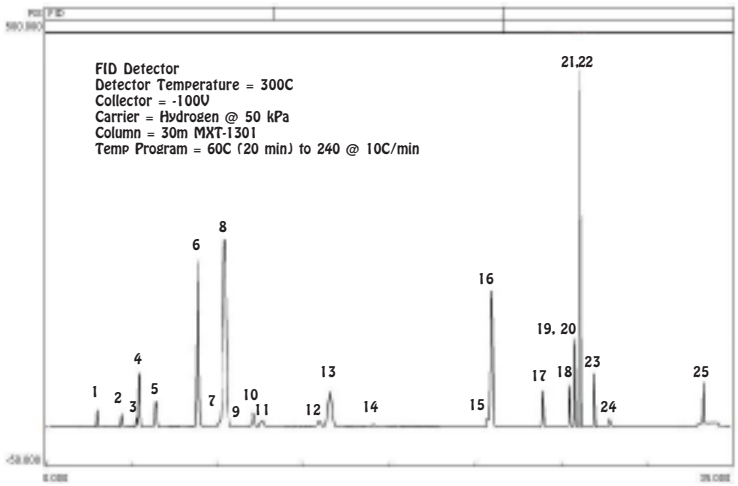
500-C2-145 - Companion 2 Portable Residual Solvents GC Analyzer (FID, Headspace Concentrator, 30m Column)

Series 600 GC

Residual Solvents Analysis

Companion 2 Portable GC
(with Headspace Concentrator)

Peak	Component
1	Methanol
2	1,1-Dichloroethane
3	Acetonitrile
4	Methylene Chloride
5	Hexane
6	cis-1,2,-Dichloroethane
7	Chloroform
8	1,1,1-Trichloroethane
9	Carbon Tetrachloride
10	Benzene
11	1,1-Dichloroethane
12	1,1,2-Trichloroethene
13	Methylcyclohexane
14	1,4-Dioxane
15	Pyridine
16	Toluene
17	2-Hexanone
18	Chlorobenzene
19	DMF
20	Ethylbenzene
21	m-Xylene
22	p-Xylene
23	O-Xylene
24	N,N-Dimethylacetamide
25	1,2,3,4-Tetrahydronapt



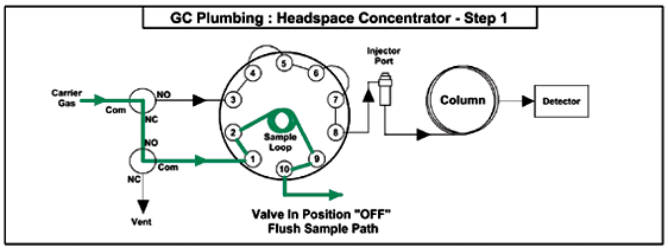
04/2019
Specifications may change without notice.

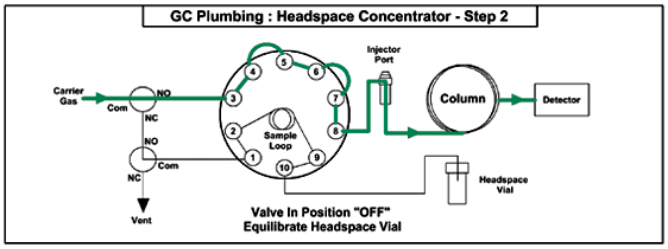
DPS Companion 2 Residual Solvents Layout

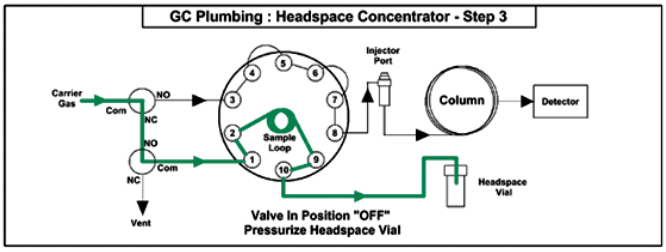
Plumbing Diagram

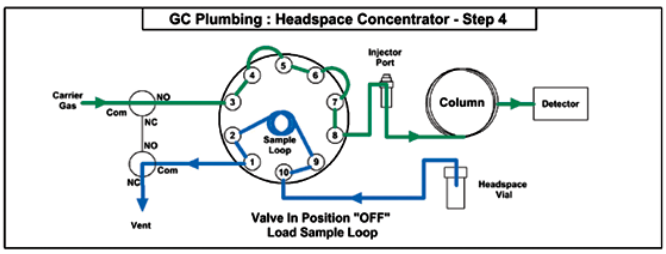
Headspace Concentrator - The Headspace Concentrator for Series 600's and Companion GC's are built right in to provide the shortest possible sample path. The Sample Vial is heated and then consistently Pressurized before loading the Sample Loop. A fixed Sample Loop ensures reproducible sampling and the sample lines are Flushed between analyses to limit any cross over contamination. The entire sequence of the Headspace Concentrator is automated through the Timeline sequence of the DPS GC Control Software for the analysis of one sample at a time, while two other samples are heated and allowed to equilibrate.

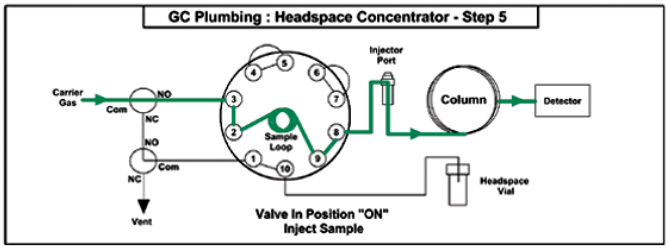
Plumbing Diagram - In the 1st Step the carrier gas is diverted to Flush out the Sample Lines between runs. During the 2nd Step the carrier gas flows to the analytical column and the Headspace Vial is heated with the Vial Heater and allowed to equilibrate. The Sample Probe is then inserted into the Headspace Vial. During the 3rd Step the Headspace Vial is pressurized for a few seconds. In the 4th Step the sample is loaded onto the Sample Loop by releasing the pressure in the headspace vial. In the 5th Step the Sample Valve is rotated to the ON position and the carrier gas sweeps the components from the Sample Loop onto the analytical column.











Headspace Plumbing Diagram

Results, Data & Conncetivity

Results: In this Headspace plumbing configuration the sample is placed inside a vial and then heated. The sample can be raw materials, tablets, pellets, or packaging material. The detector will respond with the same peak areas for the same concentration no matter which source the sample comes from.

Data and Connectivity: The built-in computer is used to collect and store the data. Data can also be copied to a USB Stick to transfer to another computer. Data can be transferred from the built-in computer to another computer on the LAN through the Ethernet port using standard Windows protocols. Or, we can use a USB cable to connect the GC to the remote computer where the data can be collected and stored on that hard drive.

GC Control Software

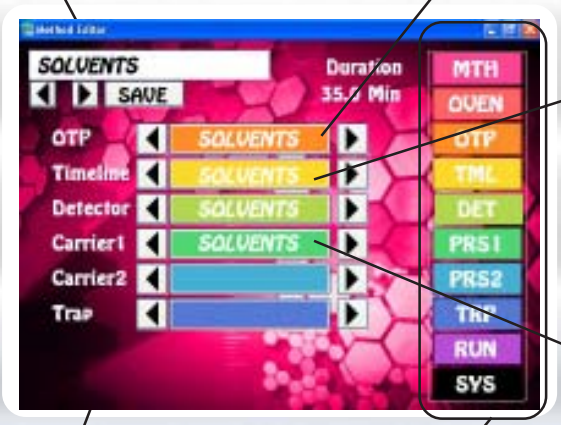
Easy to learn and master using a Graphical User Interface (GUI) and Color Touch Screen.

Editors let you customize the files associated with the GC Method.

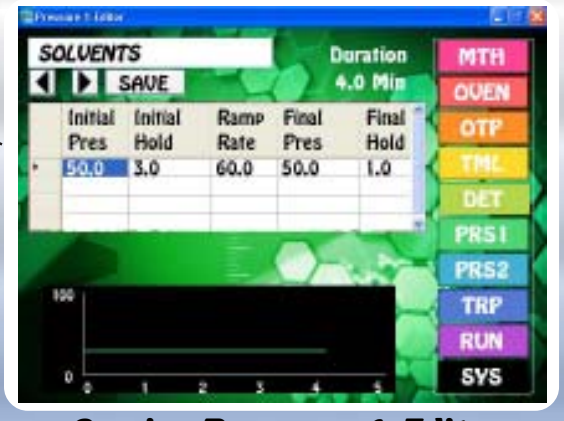
Oven Temp Program Editor

Timeline Editor

Method Name



File Selection Arrows



Carrier Pressure 1 Editor

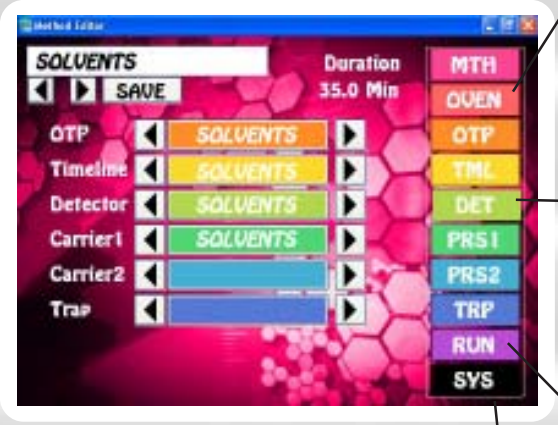
Navigation Buttons to Quickly jump from one screen to another. Most pages are one button away!

Keyboard to Enter Filenames

Number Pad for entering Values

GC Status pages display the parameters in the method, both graphically and as text and values.

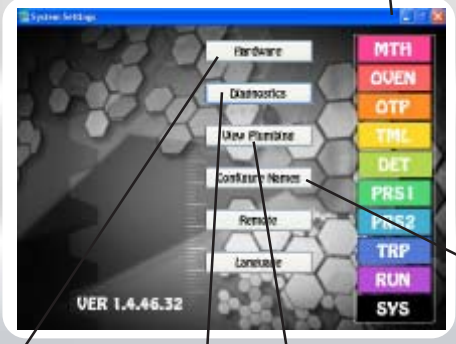
Oven Status

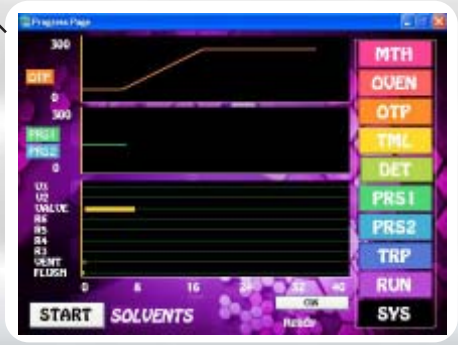


Method Editor

Detector Status

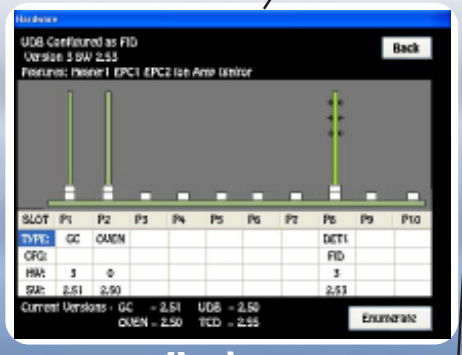
System Status



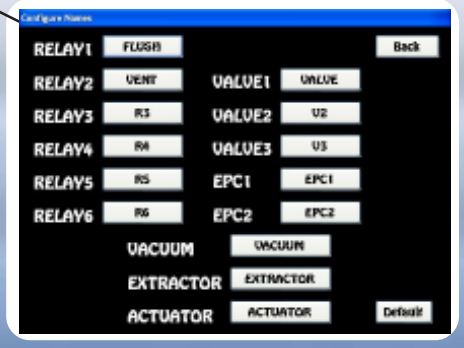


Run Status

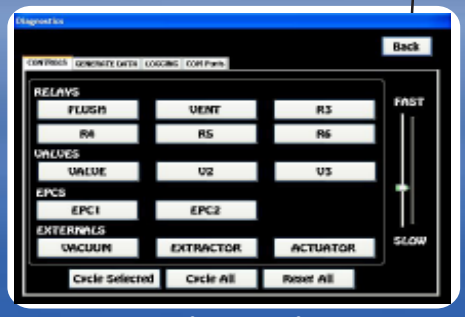
System status pages display the health and viability of the GC instrument.



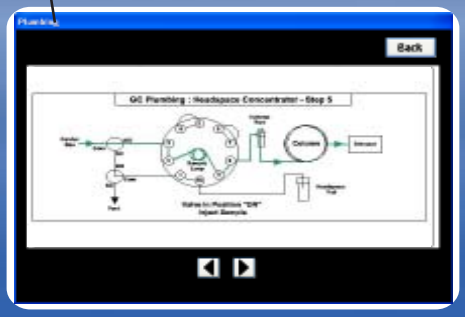
Hardware



Configure Names



Diagnostics



Plumbing

Residual Solvents GC Specifications:

Electronics Module:
- Enter and store GC Methods via Color Touch Screen
- Actual and set-point display of all GC parameters
- Safety Limits on all user entered parameters
- Oven Temperature Programs (OTP) with Multiple Ramps
- Pressure Programs for Carrier Gases with Multiple Ramps
- Timeline for sequencing Relays and Valve
- Detector Control of all Parameters on one page
- Electronic Pressure Controllers (EPC's):
  Atmospheric Pressure & Temperature Compensation
  EPC Pressure Control with 0.1 kPa set-point resolution
- Plug and Play GC Control, Oven, and Detector Board
- Microprocessor Controlled
- Proprietary Digital Signal Processing
- Digital Signal Outputs for each Detector
- Universal voltage input (85 – 240 Vac) with line filter and breaker.

Detector:
FID – Flamelonization Detector (1ng detection limit, dependent on sample loop size)

- 400 °C Temperature Limit with 0.1 °C set-point resolution
- 24-bit Digital Outputs for the detector via USB
- EPC Pressure Control with 0.1 kPa set-point resolution

Columns:
30m Capillary

Results:
Automatically calibration corrected and reported

Lab Quality Analyses in the Field, "It Goes with you Anywhere!"

Series 600 Oven Module:
- Ambient to 400°C Column Oven
- Up to 100 °C per/min Oven Ramp
- Fast Cooldown 300 °C to 50 °C in 3.5 min
- 1000 watt total Heater Elements
- Temperature Ramps with 0.1 °C set-point resolution
- 23 x 23 x 20 cm area for Glass, SS, or Capillary Columns

Companion 2 Oven Module:
- Ambient to 325 °C Column Oven
- Up to 80 °C per/min Oven Ramp
- Fast Cooldown 300 °C to 50 °C < 4 min
- 200 watt Heater Element
- Temperature Ramps with 0.1 °C set-point resolution
- 12.5 x 10.5 x 12.5 cm area for Packed, or Capillary Columns
- 14 amps at 48 Vdc total power consumption

Built-In Accessories:
- Sample Valve - Electronically Actuated
- Heated Valve Oven
- Headspace Concentrator
- Flow Control Solenoids

Injector:
- Heated On-column Injector
- Multiple Pressure Ramps with 0.1 kPa set-point resolution

Data Communications:
- Bi-directional communication with popular Data System

Network Connectivity:
- Enterprise Compatible Network GC running Windows XPe
- Ethernet Connection using Windows Network Protocol
- On Board ETX Computer for GC Control and Data Acquisition
- Remote Control of GC and Data Acquisition over LAN

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GC Comparison - System Control and Data Acquisition

GC System and Data Acquisition Features	DPS	Other Brands
Free Standing Operation (no external Computer needed)	✓	
On Board Computer running Windows	✓	
Color Touchscreen	✓	✓
Quick Navigation Bar	✓	
Built-in Chromatography Data System	✓	
Collect and Store 1000´s of Chromatograms with Results	✓	
Calibration Tables for each Compound	✓	
Real-time and post processing of Chromatography Data	✓	
On Board GC Control Software	✓	✓
Enter and Store 1000´s of - Methods	✓	
Enter and Store 1000´s of - Temperature Programs	✓	
Enter and Store 1000´s of - Pressure Programs	✓	
Detector Control of all Parameters on one page	✓	
All Oven Parameters on one page	✓	
Graphical Summary of Method (Temperatures, Pressures, Timeline)	✓	
Display of System Plumbing Diagrams	✓	
Display of System Health and Vitality	✓	
Identical Methods on Portable and Lab GC´s	✓	
Identical Results on Portable and Lab GC´s	✓	
Up to 2 installed Injectors (split/Splitelss, On-Column)	✓	✓
Up to 4 installed Detectors (FID, HID, PID, BCD, FPD, NPD, TID)	✓	
Timeline for sequencing events (Relays, Valve, Trap, Pump, etc.)	✓	
Control of Built-in Concentrators (Air, P&T, Headspace)	✓	
Safety Limits on User entered Parameters	✓	✓
With External Computer		
Microprocessor Control	✓	✓
Enterprise Compatible Network GC	✓	✓
Ethernet Connection using Windows Network Protocols	✓	✓
Remote Control of GC and Data Acquisition	✓	✓
GC and Data System Control - any Computer and all Windows Versions	✓	