



## 6890N GAS CHROMATOGRAPH SYSTEM

The Gas chromatography is an essential analytical tool for a broad spectrum of industries and applications including research, quality control, and environmental testing.

External connectors on the back of the instrument are mounted directly on the main board or optional automatic liquid sampler control board and are used for communications with external instruments.

There are seven test pads on the main board that allow you to test the GC's regulated DC supplies (+24V, -24V, +15V, -15V, +5V) and to test the ground.

The HP 6890 GC is programmed to display numerous warning and error messages. The instrument regularly monitors the state of its detectors, pneumatics, oven, PC boards and other components.

To protect users, the metal instrument panels and cabinet are grounded through the three-conductor power line cord in accordance with International Electrotechnical Commission (IEC) requirements.

The three-conductor power line cord, when plugged into a properly grounded receptacle, also grounds the instrument and minimizes shock hazard.



The HP 6890 Network GC System

### Specifications

#### Physical specifications

##### Dimensions and average weight

- Height: 50 cm (19.7 in.)
- Width: 58 cm (22.8 in.) with EPC inlets; 68 cm (26.8 in.) with manual inlets
- Depth: 54 cm (21.6 in.)
- Average weight: 108 lbs (49.0 kg)

##### Laboratory environmental conditions

- Storage extremes: -40°C, 65°C
- Recommended ambient temperature: 15–35°C
- Recommended ambient humidity: 5–95%

##### Safety certifications

- CSA certified and NRTL listed
- IEC self-certified

##### Data communications

- HP-IB, RS-232-C, and two analog output channels (1-mV, 1-V, and 10-V output available) as standard
- INET interface optional

##### Heated zones

- Independent heated zones, not including oven: six (two inlets, two detectors, and two auxiliary)
- Maximum operating temperatures for auxiliary zones: 400°C



## Specifications

### Column oven

**Dimensions:** 28 x 31 x 16 cm

**Operating temperature:** 4°C above ambient to 450°C  
 – with LN2 cryo: -80°C to 450°C  
 – with CO2 cryo: -55°C to 450°C

**Temperature setpoint resolution:** 1°C

**Maximum setpoint temperature rate:** 120°C/min

**Actual programming rate:** see chart

**Maximum run time:** 999.99 min

**Programming ramps/plateaus:** 6/7

**Ambient rejection:** <0.01°C per 1°C

Column bleed compensation standard for two channels

### Inlets

**Maximum inlets installed:** two

All inlets include septum purge

#### Inlets available:

- Packed: electronic or manual pressure/flow, 400°C max
- Split/splitless: electronic or manual pressure/flow, 400°C max, electronic entry of pressure or flow and split ratio with electronic version
- Temperature-programmable cool on-column: electronic pressure/flow, 450°C max
- **For electronic inlets:**
  - Pressure setting range: 0–100 psi
  - Total flow setting range: split/splitless, 0–200 ml/min N<sub>2</sub>, 0–1000 ml/min H<sub>2</sub> or He
  - Packed: 0–100 ml/min

### Detectors

- All detectors are available with electronic or manual control of gases.
- All detectors (manual or electronic) include electronic on/off of all detector gases.

#### Detectors available:

- Flame ionization detector (FID) for packed or capillary columns
- Flame ionization detector (FID) optimized for capillary columns
- Thermal conductivity detector (TCD)
- Electron capture detector (ECD)
- Nitrogen-phosphorous detector (NPD) for packed or capillary columns
- Nitrogen-phosphorous detector (NPD) optimized for capillary columns
- Mass selective detector (MSD)

### FID

- 450°C maximum operating temperature
- Automatic flame ignition from the keypad or ChemStation
- Flame out detection
- MDL: <5 pg carbon/s as propane using N<sub>2</sub> carrier and 0.2794-mm jet
- Linear dynamic range: < 10%, 10<sup>7</sup> with N<sub>2</sub> carrier and 0.2794-mm jet

### NPD

- 400°C maximum operating temperature
- Automatic baseline adjusting via keypad or ChemStation
- MDL: <0.4 pg N/s, <0.2 pg P/s with azobenzene/malathion mixture
- Selectivity: 35000 to 1 gN/gC, 75000 to 1 gP/gC with azobenzene/malathion/octadecane
- Dynamic range: >105 N, >105 P with azobenzene/malathion mixture

### TCD

- 400°C maximum operating temperature
- Single filament with microcell
- MDL: <400 pg propane/ml He carrier (MDL may be affected by laboratory environment.)
- Linear dynamic range: 105 (5%)

### ECD

- Equipped with anode purge for contamination resistance
- 400°C maximum operating temperature
- Make-up gas types: argon (5%)/methane, nitrogen
- Radioactive source: 15 mCi 63Ni plated
- MDL: <0.04 pg/s lindane
- Dynamic range: >104 with lindane