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A CAUTION notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

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To assure a quick, safe, and uncomplicated installation, we kindly request you to make provisions as stated below before your Agilent Technologies, Inc. service engineer installs your instrument(s).

Installation and use should only be done by trained and qualified personnel.
Customer Responsibilities

The specifications in this manual outline the necessary space, electrical outlets, gases, tubing, operating supplies, consumable, and other usage-dependent items required for the successful installation of instruments and systems.

If Agilent Technologies is delivering installation and familiarization services, users of the instrument should be present throughout these services; otherwise, they will miss important operational, maintenance, and safety information.

If Agilent Technologies is delivering installation and familiarization services, delays due to inadequate site preparation could cause loss of instrument use during the warranty period. In extreme cases, Agilent Technologies may ask to be reimbursed for the additional time required to complete the installation. Agilent Technologies provides service during the warranty period and under maintenance agreements only if the specified site requirements are met.

Environmental Requirements

- Pollution degree: 2
- Humidity: <95% RH (non condensing)
- Temperature: 0 °C to +50 °C operating
- The Micro GC is intended for indoor use. For out of the lab measurements, the use of a Field Case is needed.
- The Micro GC should be protected from corrosive chemicals or gases, dust/particulate accumulation, and direct venting of air conditioners, heaters, furnaces or fans.
Space and Weight Requirements

Allow sufficient bench space to permit installation of workstations and Micro GC accessories. Table 1 lists the physical dimensions and weight of the Micro GC and the peripheral instruments that may be installed near it.

Allow 10 to 20 cm of space at the sides and rear of the Micro GC to permit air circulation.

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro GC dual channel cabinet</td>
<td>11</td>
<td>28</td>
<td>6.5</td>
<td>16</td>
</tr>
<tr>
<td>Micro GC quad channel cabinet</td>
<td>11</td>
<td>28</td>
<td>6.5</td>
<td>16</td>
</tr>
<tr>
<td>Power supply</td>
<td>1.8</td>
<td>4.6</td>
<td>3.3</td>
<td>8.5</td>
</tr>
<tr>
<td>Field Case dual channel</td>
<td>10.6</td>
<td>26.9</td>
<td>21.2</td>
<td>53.8</td>
</tr>
<tr>
<td>Field Case quad channel</td>
<td>12.4</td>
<td>31.6</td>
<td>31.6</td>
<td>80.2</td>
</tr>
</tbody>
</table>

Power Requirements

- Voltage of 100 to 240 VAC, frequency 50 to 60 Hz
- The power source must be exclusively reserved for the instrument. Use of a dedicated receptacle reduces interference.
- The power source and receptacles require a suitable, isolated ground. Be sure to verify proper receptacle grounding. Use of a dedicated receptacle reduces interference.
- Installation Category (overvoltage category): II
Site Preparation Requirements

**Power Supply**

Each Micro GC requires a maximum universal power supply of 12V VDC, 150 W (delivered with the instrument).

**Gas Supply**

**External gas supply**

Use a gas cylinder with a proper working two-stage pressure regulator and adjust the carrier gas pressure to 550 kPa ± 10% (80 psi ± 10%).

**Internal gas supply of the Field Case**

To fill the built-in carrier gas supply tank, use a separate gas cylinder with a pressure much greater than 12000 kPa (120 bar, 1800 psi).

**Gas purity**

Gases in gas bottles must have a minimum purity of 99.999%. 
Sample Gases

The Micro GC is designed for the analysis of gases and vapors only. Exceptions are Liquefied Petroleum Gas (LPG) and Liquefied Natural Gas (LNG). These samples can be introduced on the Micro GC using the optional Micro-Gasifier.

You are advised to prepare a non-condensing gaseous standard sample for routine checkup of the instrument. Sample pressure should be between 0 and 100 kPa (0 to 1 bar, 0 to 15 psi), the temperature between 0 and 110 °C (for heated sample line and heated injectors).

Aerosols, droplets, particles and polymers must be filtered out. Agilent always recommends the use of the external filter kit for particle removal. This filter kit, p/n CP736729, with 5 micron filter is part of the installation kit that ships with every Micro GC. As an option a Genie filter is available for the removal of aerosols or droplets. See the Agilent website for more details, or contact your local Agilent sales representative.

Outlet of sample container must fit a stainless steel capillary of 1/16 inch outside diameter. On the instrument side the sample tubing is connected on a 1/16 inch Swagelok female nut.
Carrier Gas Connection

The carrier gas line is connected from the bulk carrier gas tank to the Micro GC on the rear panel **Carrier 1** or **Carrier 2** port. Do not use plastic tubing. Use only properly rinsed copper or stainless steel tubing delivered with the instrument.

The use of Gas Clean filters is recommended. Gas Clean filters are filled with nitrogen. If you are not using nitrogen as the carrier gas, flush filters and gas lines after installation of a new filter. See Figure 1.

**Figure 1** shows the Gas Clean oxygen filter (p/n CP17970) installed in series with the Gas Clean moisture filter (p/n CP17971).

There is a starter kit available including a dual connection unit and an oxygen and a moisture filter, p/n CP738408.

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**Figure 1** Recommended Gas Clean filters
## Communication Ports

The Micro GC has the communication ports shown in Table 2, depending on the model.

### Table 2  Micro GC communication ports

<table>
<thead>
<tr>
<th>Port</th>
<th>Connection</th>
<th>490 Micro GC</th>
<th>490-Mobile Micro GC</th>
<th>490-PRO Micro GC</th>
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<td>Interface with PC</td>
<td>Interface with PC</td>
<td>Interface with PC</td>
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<td>COM 1</td>
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<td>Not available</td>
<td>Valco stream selector; Serial MODBUS†</td>
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<tr>
<td>COM 2</td>
<td>RS232</td>
<td>Valco stream selector</td>
<td>Valco stream selector</td>
<td>Valco stream selector; Serial MODBUS†;</td>
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<td></td>
<td></td>
<td>Field case LCD†</td>
<td>Field case LCD†</td>
<td>LCD†</td>
</tr>
<tr>
<td>COM 3</td>
<td>RS485</td>
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<td>Serial MODBUS†</td>
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<tr>
<td></td>
<td>RS232</td>
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<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td></td>
<td>RS422</td>
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<td>Not available</td>
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<td>COM 4</td>
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<td>Serial MODBUS†</td>
</tr>
<tr>
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<td>RS232</td>
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<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td></td>
<td>RS422</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
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<td></td>
<td>Analog I/O</td>
<td>Analog I/O</td>
<td>Analog I/O</td>
</tr>
<tr>
<td>Digital I/O</td>
<td></td>
<td>Digital I/O; ready in - ready out;</td>
<td>Digital I/O; ready in - ready out; start in - start out; extension boards†</td>
<td>Digital I/O; ready in - ready out; start in - start out; extension boards†</td>
</tr>
<tr>
<td>USB</td>
<td></td>
<td>VICI Valves, WIFI interface</td>
<td>VICI Valves, WIFI interface, USB Storage</td>
<td>VICI Valves, WIFI interface, USB Storage</td>
</tr>
</tbody>
</table>

* Optional PRO license required
† Optional accessory
Site Preparation Requirements

Network Requirements of the Micro GC

- Customer cable type should be Cat5 UTP / STP or better
- Customer network should comply with Standard Ethernet (IEEE 802.3)
- TCP/IP for network connectivity

Minimum Computer Requirements for all Micro GC Systems

If using an Agilent Chromatography Data System such as OpenLAB CDS system, refer to its computer requirements.

For PROstation software and related utilities, the minimum requirements are listed below:

- Processor speed: Processor with 2 GHz CPU or higher
- Internal RAM: Recommended 4 GB RAM or more using Windows 7
- Hard disk space > 20 GB
- Supported Microsoft Windows versions: Windows XP professional edition (ServicePack 2 or higher), Windows 7 32 or 64 bit (ServicePack 1 or higher), or Windows 8.1
- Free USB port
- Free Ethernet port