Waters® Xevo® G2 QTof

Site Preparation Guide

Notice

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Table of Contents

Introduction

This document describes the environmental conditions, power supplies and gas supplies that are required for the operation of the Xevo G2 QTof. Operating the instrument in conformance with these conditions will enable the instrument to achieve its optimum performance.

Responsibilities

A Waters engineer will be responsible for installing and commissioning the system to ensure that the instrument is properly installed and operational. The laboratory must be prepared in advance to allow the engineer to carry out the installation efficiently. A site preparation checklist is included at the end of this document for you to fill in and return to Waters when the laboratory is ready.

Important: The installation of the system cannot begin until the checklist has been completed and returned to the mass spectrometer sales support representative at your local Waters office.

The installation time may vary, depending on the instrument options being installed. The site preparation checklist must be completed as accurately as possible to help minimize installation time.

A major aspect of the system installation is the implementation tests designed to evaluate the instrument functionality under specific operating conditions. At the completion of each test, the actual test result obtained is entered in the Installation Checklist or Instrument Qualification Workbook, whichever is appropriate.

Important: A user who has been designated to be responsible for the normal use and upkeep of the instrument must be present during the installation.

The user must be present during the functionality tests at installation; this allows the user to be trained in the basic system operation. If there are foreseen periods when the intended user cannot be present, please notify us in advance; this will enable us to schedule the installation for a more convenient time.

If you have questions regarding the information in this document or any specific site problems, contact your local Waters sales representative. If necessary, we will arrange a site survey.

Storage

The following storage conditions are required prior to installation:

- unopened shipping palletized cartons and crates
- palletized cartons and crates stored away from heavy machinery such as compressors or generators, which generate excessive floor vibration
- storage area temperature 0 to 40 °C (32 to 104 °F) and humidity <80%, non-condensing

Contact your local Waters representative if you need further advice regarding storage conditions.

Unpacking and Moving

The instrument is delivered in several palletized cartons and crates. Their sizes may vary dependent on instrument specification and optional accessories, typical sizes for the instrument crate are:

- Width 1050 mm (41.25 in.)
- Length 1180 mm (46.5 in.)
- Height 1850 mm (72.8 in.)
- Weight 300 kg (661 lbs)

It is a warranty condition that the cartons and crates are unpacked only when the Waters engineer is present.

After installation, it is the customer's responsibility to dispose of the cartons, crates, and packaging.

It is essential that the instrument is not bumped or jolted during unpacking or any subsequent transport. If the instrument needs to be transported across an uneven surface, the instrument must be carried on a forklift truck or trolley.

Doorways must be at least 825 mm (32.5 in.) wide. Elevators and corridors (including corners) must be sufficiently wide for maneuvering of the instrument. Special handling arrangements may be necessary if access to the laboratory is via a staircase.

Once unpacked, the instrument weights are approximately as shown in Table 1:

Table 1: Instrument Weights

Xevo G2 QTof	266 kg (586 lbs)
Data system (computer, monitor, and optional printer)	<50 kg (110 lbs)
Rotary pump*	33 kg (73 lbs) each
Scroll pump*	48 kg (105 lbs)

***** System includes *either* a rotary or scroll pump option.

Lifting Equipment

A forklift truck is recommended for lifting and transporting the instrument and crate to the point of installation. The forklift truck should then be used to lift the instrument from the crate onto the laboratory bench using the straps provided. If a forklift truck is unable to gain access to the point of installation, Waters recommends using a jackable trolley with the following specifications to lift the instrument from the crate onto the laboratory bench:

- Lifting capacity 300 kg (661 lbs)
- Maximum lowered height 250 mm (9.8 in.)
- Minimum raised height at least 900 to 1000 mm (35 to 39 in.)
- Lifting plate footprint larger than the instrument dimensions (Figure 2)

Warning: The instrument must only be lifted using lifting equipment capable of raising the instrument's weight safely. The instrument must not be lifted manually. The lifting equipment must be capable of lifting the instrument to the same height as the laboratory bench. The Waters engineer will require assistance lifting and positioning the instrument.

Important: It is essential that you provide suitable equipment for lifting the instrument. If suitable lifting equipment is not available when the Waters engineer arrives on site, the installation cannot be implemented and additional costs may be incurred. Contact your local Waters office prior to instrument shipment, if you require a jackable trolley capable of raising 300 kg (661 lbs).

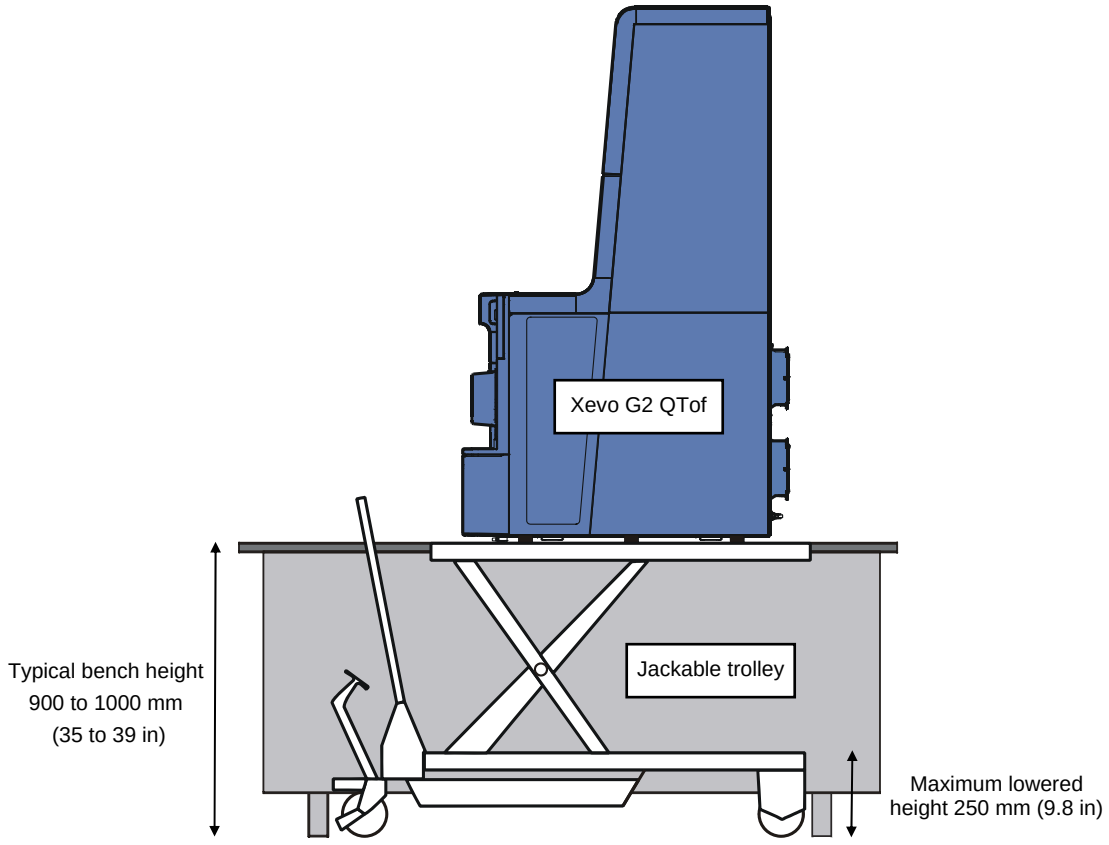

Figure 1 - Lifting and Positioning the Instrument

Bench Loading

The bench must be able to support the combined weight of the mass spectrometer, data system and LC system. Nominal weights for the instrument and data system are shown in Table 1. Refer to the UPLC, HPLC, or GC system site preparation guide for specific weight information.

Space Requirements

Instrument

The instrument has the following dimensions:

- Width 685 mm (27 in.)
- Length 925 mm (36.5 in.) (no source fitted)
- Height 1520 mm (60 in.)

Note: A moveable workbench of suitable load rating is the preferred arrangement for the system setup, to provide ease of access for servicing.

To allow necessary ventilation, allow at least 30 mm clearance for vents on the left-hand side, and at least 50 mm clearance on the right.

For service access, a minimum clearance of 600 mm (23.6 in.) is required for the front, back, and right side of the instrument; a temporary clearance of 1000 mm (39.5 in.) is required for the left side of the instrument. If the instrument is placed on a bench that can be moved out during service visits, the minimum clearance at the back is 150 mm (6 in.) with the rotary/scroll pumps positioned beneath the instrument. The mass spectrometer may be installed upon any suitable flat surface.

The instrument is supplied with a 2.5 m (8 ft) power cable.

A possible layout for the Xevo G2 QTof, rotary/scroll pumps, data system and ancillary equipment is shown in Figure 2.

Note: An additional 100 mm (4 in.) is recommended behind the workbench to accommodate vacuum tubing, or an access slot as shown in Figure 2.

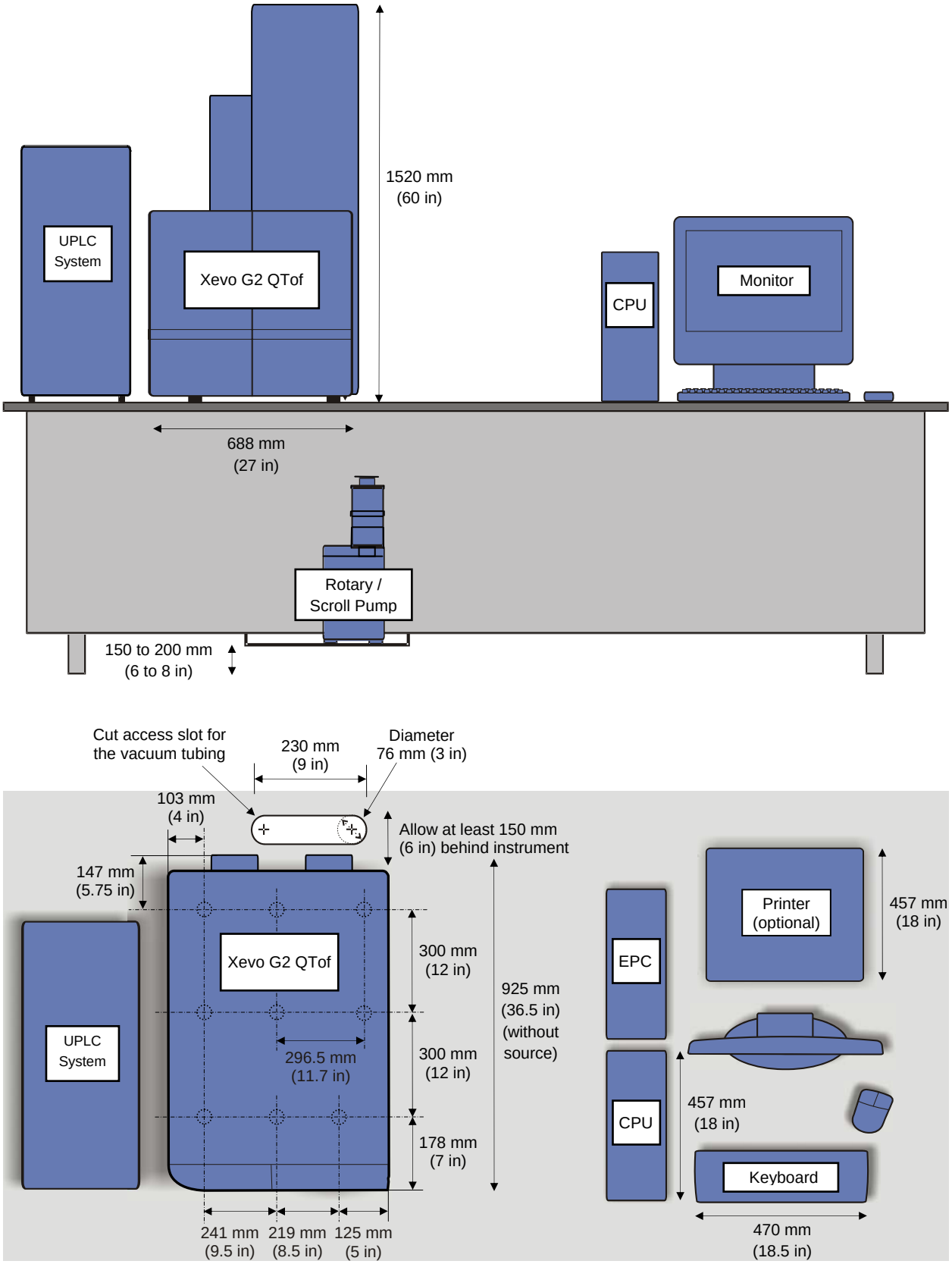

Figure 2 - Xevo G2 QTof Space Requirements

Rotary/Scroll Pumps

The rotary pump is rated at 100 to 120 V / 220 to 240 V, 50/60 Hz. There is no voltage selector switch on the pump; it auto senses the voltage and runs either 115 V or 230 V. The rotary pump is powered via a dedicated mains power cable, and controlled by the instrument.

Important: The customer must supply a suitable power cable if operating the rotary pump in the USA on 230 V.

The rotary pump or optional scroll pump must be positioned on the floor, either behind or underneath the instrument and within 1 m (3.3 ft) of the rear of the chassis. The pump is powered via a dedicated mains power cable, and controlled by the instrument. It is recommended that the rotary pump is elevated 150 to 200mm (6 to 8 in.) above the floor to provide easy access during routine maintenance.

Note: The rotary pump dimensions are length 515 mm (20.3 in.) and width 164 mm (6.5 in.). The scroll pump dimensions are length 500 mm (19.7 in.) and width 333 mm (13.1 in.).

Embedded PC

Ensure that there is sufficient space next to the mass spectrometer for the embedded PC system.

LC System

Ensure that there is sufficient space to the left of the mass spectrometer for the LC system. Refer to the UPLC or HPLC system site preparation guide for the relevant space requirements.

Data System

The data system can be positioned on the same bench as the mass spectrometer or on a separate desk (available as an option). A 3 m (7.75 ft) X-wire network cable connects the computer to the mass spectrometer. The two data system power cables for the PC and monitor are approximately 2 m (6.5 ft) in length.

Connections INSIGHT® Installation Requirements

Installation of the Waters Connections INSIGHT software (Intelligent Services that provide real-time system monitoring and notification), requires the following:

- An active Internet connection (direct, or through a firewall or proxy server)
- SSL (secure sockets layer) port 443 to be activated

Note: Connections INSIGHT software directly communicates with the Waters Enterprise Server using 128-bit data encryption. For further information see *Connections INSIGHT Frequently Asked Questions* (p/n 720001131EN).

Electrical Safety

The Xevo G2 QTof complies with the international safety standard IEC 61010-1:2001 and meets the European low voltage directive 2006/95/EC by means of European harmonized standard EN 61010-1:2001.

For installations in Australia and New Zealand, the building installation must comply with AS3000: electrical installations for Australia and New Zealand.

The instrument is suitable for use in environments categorized as Pollution Degree 2 and Over-voltage Category II.

Power Requirements

Power Supply

The Xevo G2 QTof and the rotary/scroll pump require one power socket each. The embedded PC requires a further power socket. The power supply sockets must be located within 2 m (6.5 ft.) of the instrument. Do not position the equipment so that it is difficult to disconnect the mains cable.

The data system typically requires two power sockets located adjacent to the Xevo G2 QTof for the instrument PC and monitor. Further outlets may be required for optional equipment, such as a printer.

A typical LC system may require three or more additional sockets – refer to the relevant LC documentation for information.

Important: Mains voltage fluctuations must not exceed ±10%.

The power requirements for the equipment are summarized in Table 2.

Table 2: Summary of Power Requirements

Equipment	Nominal Voltage Range	Supply Fuse / Circuit Breaker Rating	Typical Power Consumption	Power Connection	Power Sockets	Power Sockets (with optional UPS)
Xevo G2 QTof	200 to 240 V 50/60 Hz	10 to 16 A	1.1 kW	IEC 60320 C20 receptacle	1	1
Embedded PC	100 to 120 V /200 to 240 V 50/60 Hz	10 A	100 W	IEC 60320 C14 receptacle	1	
Rotary Pump, HS 602	110 to 120 V /200 to 240 V 50/60 Hz	10 to 16 A	500 W	IEC 60320 C14 receptacle	1	
Scroll Pump, XDS35i	200 to 230 V 50/60 Hz	10 to 16 A	600 W	IEC 60320 C20 receptacle	1	
Data System	100 to 120 V /220 to 240 V 50/60 Hz	10 A	1.0 kW	IEC 60320 C14 receptacles	2	
Nitrogen Generator (optional)	210 to 250 V, 50/60 Hz	10 A	-	IEC 60320 C20 receptacle	1	-

Important: Voltage supply stability is critical for instrument operation, the nominal power supply voltage must fall within the ranges specified in Table 2 at all times to allow for the occasional 10% surge.

The supplies must be wired with a protective earth and fused or fitted with circuit-breakers of the specified ratings, in accordance with local regulations.

The mains supply must not have brown-outs/surges greater than ±10%, and must not exceed the specified maximum operating range for more than 0.3 sec. Transient voltage drops to half nominal voltage or less must have a duration of less than 20 ms. There must be less than 1.0 V RMS of ripple on the mains supply.

It is also recommended that additional protection is provided for the instrument by means of:

- Residual Current Devices (RCDs) for UK and Europe
- Ground Fault Circuit Interrupters (GFCIs) for Rest of the World

In the case of instruments fitted with a transformer, the RCD/GFCI must be fitted on the primary (supply) side of the transformer.

Electrical Transformers

If there is a possibility that the supply voltages will not meet the specified operating range under all conditions, a transformer must be used to change the primary supply voltage to the specified range. Mains conditioners/stabilizers are also available as an optional accessory. Contact Waters with advance notification if power supply problems are likely to be experienced and for additional advice.

In the case of instruments fitted with a transformer, the RCD/GFCI must be fitted on the primary (supply) side of the transformer.

If your order includes a nitrogen generator and the mains supply is known to run continuously at voltages less than 220 V, Waters and Peak Scientific recommend fitting one of the following transformers between the generator and mains supply.

Caution: Running nitrogen generators continuously at voltages less than 220 V is not recommended and extended periods at these extremes can affect the operation and life of the generator.

Table 3: Nitrogen Generator Transformer Options

Model Type	06-3100	06-3110
View		
Description	208 volt AC to 230 volt AC boost transformer	115 volt AC to 230 volt AC boost transformer

System Plug Options

The system plug options are shown in Table 4. The instrument is shipped with the plugs that were requested at the point of order. The user must provide appropriate sockets for the relevant type of plug used. If the available sockets are incompatible with the plugs supplied, the customer must supply appropriate cord sets for the instrument and pumps. The cord sets must comply with local regulations.

Computer equipment is typically rated at 100 to 120 V / 220 to 240 V, 50/60 Hz. In some cases, it may be necessary to set the appropriate voltage using a voltage selector switch before connecting the equipment to the power supply. For full details, refer to the instructions provided with the equipment.

Note: If ancillary equipment is to be installed (for example, compressors) additional power outlets, possibly requiring 3-phase supplies, may be needed. Such supplemental needs must be confirmed with the local Waters agent prior to the start of the installation.

Table 4: Power Cords Supplied by Waters

Plug Option	Plug Type	System Components
US/Canada (125 V) 	5-15P (UL817 and CSA C.22.2)	Data System Rotary Pump
US/Canada (250 V) 	L6-15P (UL817 and CSA C.22.2)	Mass Spectrometer Scroll Pump Nitrogen Generator
UK 	3-pin (BS1363)	Data System Mass Spectrometer Rotary/Scroll Pump Nitrogen Generator
Europe 	2-pin (CEE7)	
Denmark 	3-pin (Afsnit 107-2-D1)	Data System Mass Spectrometer Rotary/Scroll Pump Nitrogen Generator
Australia 	3-pin (AS/NZS 3112)	Data System Mass Spectrometer Rotary/Scroll Pump Nitrogen Generator
China 	GB2099 (10 A version)	Data System
China 	GB2099 (16 A version)	Mass Spectrometer Rotary/Scroll Pump Nitrogen Generator

Uninterruptible Power Supply

To prevent instabilities in local mains power impacting system reliability and performance, Waters recommends the use of an uninterruptible power supply (UPS). In support of this recommendation, Waters supplies UPS units that have been specifically configured and evaluated for use with Waters MS systems. Your local Waters field sales representative can provide further details.

These UPS units step up single-phase line voltage to 230 V AC, provide power conditioning and protection for the MS system.

For North America, the UPS system requires one L6-30 (30 amp) wall socket. In other areas, the UPS system will typically connect to your laboratory mains power using the standard MS instrument power cord and wall socket required for your system. See Table 2 and Table 4.

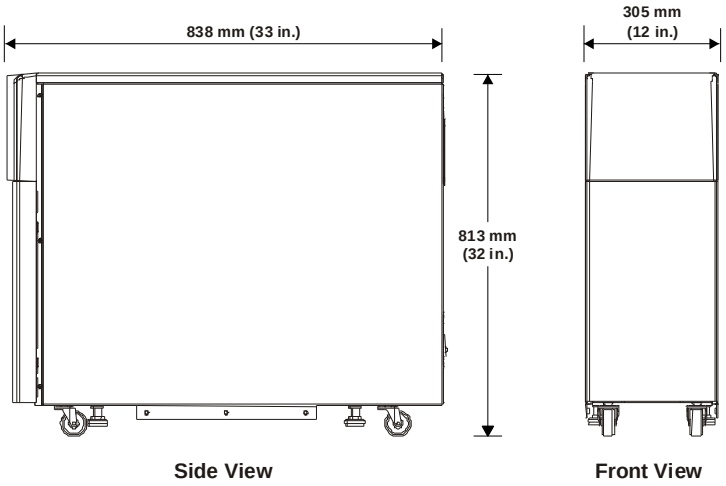

Figure 3 - Approximate maximum dimensions of the UPS

Environment Requirements

Safety Recommendations

Due to the operation of atmospheric pressure sources, the user must be aware of potential chemical hazards. In particular, the user must assess the risks associated with nitrogen gas (oxygen deficiency) and solvents vented into the laboratory. Note that due to the fluidic nature of the sample inlet, ionization and exhaust system, there is a potential for gas/liquid leaks to occur. The user must give due consideration to the laboratory environment (including volume and air changes) before installation and during operation of the system.

Warning: The active exhaust vent must provide a minimum vacuum of 2 mbar (0.015 psi) below atmospheric pressure (negative pressure). It must be capable of supporting a maximum instrument exhaust gas load of 2000 L/hour.

Warning: Exhaust venting must comply with all local safety and environmental regulations. The ANSI/AIHA Z9.2-2001 standard for "Fundamentals governing the design and operation of local exhaust ventilation systems" provides guidance on compliant exhaust systems.

Positioning

It is recommended that the instrument is installed in an air conditioned laboratory, in a draft free position, away from excessive amounts of dust. Air conditioning units must not be positioned directly above the mass spectrometer. To avoid adverse operation, do not locate the instrument in direct sunlight.

Ventilation

The maximum overall heat dissipation into the room from the instrument and pumps is approximately 1.6 kW. This figure does not take into account ancillary equipment such as data and LC systems. Air conditioning systems may have to be installed or upgraded to accommodate additional heat load into the room when these systems are installed.

Temperature

The ambient temperature range required for normal operation is 15 to 28 °C (59 to 82 °F).

The optimum temperature range is 19 to 22 °C (66 to 72 °F).

Short-term (1.5 h) variations must be no more than ±2 °C (3.5 °F).

Humidity

The relative humidity in which the instrument and pumps are to operate must be in the range of 20 to 80%, non-condensing.

Altitude

The instrument is designed and tested to operate below 2000 m (6500 ft).

Vibration

The instrument must not be placed close to heavy machinery such as compressors and generators, which may generate excessive floor vibration.

Magnetic Fields

The instrument must be positioned away from magnetic fields of greater than 10 Gauss, such as those generated by NMR spectrometers and magnetic sector mass spectrometers.

Radio Emissions

The instrument must not be placed within a Radio Frequency (RF) field of greater than 1.0 V/m.

Possible sources of RF emission include RF-linked alarm systems, Local Area Networks (LANs), mobile telephones, and hand-held transmitters.

Gases and Regulators

Nitrogen Gas

Caution: Where the APGC source is ordered, nitrogen purity must be >99.999%.

Refer to the *APGC Site Preparation Guide* (p/n 715002164) for specific external nitrogen gas supply and connection requirements.

The Xevo G2 QTof requires a supply of dry, oil-free nitrogen with a purity of at least 95%. The nitrogen must be regulated at 7 bar (100 psi) outlet pressure.

Caution: The nitrogen must be connected using the full 5 m (16 ft) of 6 mm OD PTFE tubing supplied. Do not cut the tubing to size. The nitrogen line must be checked for leaks under pressure.

If copper tubing is used for the nitrogen line, the copper must be chemically cleaned; if stainless steel tubing is used, the stainless steel must be medical grade. Ensure that there are no soldered or brazed joints in the line, as these may result in contamination of the instrument with tin or lead oxide. Any joints in the nitrogen line must be compression fittings.

During API operation, typical nitrogen usage varies from 600 to 1200 L/h (at atmospheric pressure). This equates approximately to the consumption of a large cylinder of compressed nitrogen each day. You may prefer to use a liquid nitrogen Dewar, which will last for several weeks, consult your local gas supplier for an ideal gas supply configuration.

Note: The use of nitrogen cylinders is not recommended for normal operation. Due to high consumption, a cylinder is likely to empty during long sample runs. The supply must be constant in case venting occurs.

Collision Gas

Argon is required for the collision cell. The argon must be dry, high purity (99.997%) and regulated at a pressure of 0.5 bar (7 psi).

Caution: Ensure that there are no soldered or brazed joints in the argon line, as these may result in contamination of the instrument with tin or lead oxide. Any joints in the collision gas line must be compression fittings.

The gas supply must be connected using the clean, 1/8-inch OD, medical-grade stainless steel tubing supplied and checked for leaks under pressure.

Exhaust Outlets

Rotary/Scroll Pump Exhaust

The rotary/scroll pump exhaust gases must be vented to the atmosphere outside the laboratory via a user-supplied fume hood or industrial vent. The exhaust may be connected to an existing laboratory vent carrying gases from other sources.

Five meters (16 ft) of 12.7 mm (1/2 in.) ID 19 mm (¾ in.) OD PVC tubing is supplied. If this length is insufficient, the user must supply an adapter and tubing with an internal diameter of at least 51 mm (2 in.) for the extra distance to the vent point.

Note: The fume hood/industrial vent must be equipped with an extraction fan system to enable adequate displacement of the exhaust gases.

Source Exhaust (Nitrogen)

The source exhaust line must be connected to either a laboratory fume hood, or to an active exhaust system.

Refer to the exhaust warnings in the Environment Requirements section on page 15 for additional source exhaust information.

Caution: Severe contamination of the instrument may result if the source exhaust line is connected to the rotary pump exhaust line. The damage will occur when the nitrogen supply is turned off, or when the nitrogen runs out, as any rotary pump oil vapour will migrate via the source exhaust to the ion source and then through the sample cone into the analyzer.

Six meters (19.6 ft) of 12 mm OD hose is supplied for the source exhaust. If this length is insufficient, the user must supply an adapter and tubing with an ID of at least 16 mm (⅝ in.) for the extra distance to the vent point.

The instrument software can be configured to switch the LC system off if it detects that the nitrogen gas supply has failed. In the event that the nitrogen gas is switched off (or runs out) and the LC system continues to operate, excess solvent is drained from the source via the source exhaust line.

Solvent Delivery System

The instrument has an inbuilt fluidics system for sample infusion and tuning.

For ESI / ESCi operation, a UPLC / HPLC pump giving a stable, pulse-free flow of 50 to 1000 µL/min is required. For APCI, the pump must provide a stable, pulse free flow of 50 to 2000 µL/min.

For instruments purchased with the NanoLockSpray source option a suitable stable, pulse-free nanoflow LC system may be required (dependant on application).

Before returning the checklist at the end of this document, please ensure that any locally supplied solvent delivery system has either already been commissioned or that a commissioning date has been scheduled.

Note: If a solvent delivery system suitable for running performance specifications will not be available at the time of installation (for example, in the case of instruments supplied with nanoACQUITY) inform the local Waters service agent so that special arrangements can be made.

Test Samples

Warning: Hazardous samples must be handled with care and in a manner that conforms to the manufacturers' guidelines.

Test samples are required for verifying the performance of instruments at the time of installation; they are also used for routine operations such as tuning and mass calibration. The compounds that are used for performance testing of the Xevo G2 QTof are listed in Table 5.

Note: A Test Sample Kit is supplied with the instrument for the installation setup. It is the customer's responsibility, in conjunction with the local Waters sales representative, to ensure that any additional samples required for customer-specific tests and post-installation testing are available.

Note: The Waters engineer will not carry test samples to the installation. If the Waters engineer is unable to complete the installation due to a lack of facilities, travel costs will be charged. The installation will be rescheduled when the chemicals are available.

Important: Storage instructions provided with the test samples must be adhered to; the use of inferior quality test chemicals caused by adverse storage conditions could impair the instrument installation.

Table 5: Samples Required for the Performance Tests

Compound	ESI	NanoLockSpray Option	APCI Option	APPI Option
Leucine Enkephalin	✓	✓		
Raffinose	✓	✓		
[Glu[1]]-Fibrinopeptide B	✓	✓		
Sodium Iodide	✓	✓		
17-α-hydroxyprogesterone			✓	
Cholesterol				✓

Note: If your laboratory practices require full sample certification documentation, Waters Analytical Standards and Reagents provide ready-to-use reference materials and reagents that are fully traceable and certified.

Solvents and Reagents

Caution: Clean, high-purity solvents and reagents and clean glassware must be used to ensure the optimum performance of the LC-MS system. Significant delays to the installation may occur if clean solvents and glassware are not provided by the customer prior to commencing the installation.

High-purity solvents (i.e. LC-MS grade) are required, as shown in the following list; these are used for making up standard solutions for performance tests and for cleaning instrument components. For detail on controlling contamination, and information on solvent brands, refer to Controlling Contamination in Ultra Performance LC®/MS and HPLC/MS Systems (p/n 715001307).

- Water
- Acetonitrile
- Methanol
- Propan-2-ol
- Formic acid
- Acetic acid

Caution: If using a water purification system, it must be maintained regularly in accordance with the manufacturers' guidelines.

Sample Preparation Equipment

Facilities for making up test samples must be available at site. Typical equipment required for sample preparation includes (but is not limited to):

- Calibrated syringes - Eppendorf (or equivalent), spanning range 1 µL to 1 mL
- Measuring cylinders, spanning range 100 mL to 1 L
- Volumetric flasks - 10 mL, 20 mL, and 50 mL flasks
- Calibrated analytical balance
- Nitrile gloves
- Lint-free tissue

Cleaning Test Sample Glassware

For detailed information on properly cleaning laboratory glassware, refer to *Controlling Contamination in Ultra Performance LC™/MS and HPLC/MS Systems* (p/n 715001307), located in the Support area of the Waters website (www.waters.com).

Cleaning Equipment

An ultrasonic bath is required for the routine cleaning of instrument parts. The bath must be at least 300 mm x 150 mm x 100 mm deep (12 in x 6 in x 4 in.).

Caution: Surfactants must not be used for cleaning glassware or other components. Refer to the document *Controlling Contamination in Ultra Performance LC™/MS and HPLC/MS Systems* (p/n 715001307), located in the Support area of the Waters website (www.waters.com).

Surfactant-free glass vessels are required in which to place instrument components for cleaning. These vessels must be made available for use at the time of installation. The vessels must have a diameter of at least 120 mm (5 in.) and be approximately 120 mm (5 in.) high.

Summary of Fittings

Table 6 shows a summary of the waste and gas connections for the installation of the Xevo G2 QTof.

Table 6: Summary of Instrument Fittings Required

	Fittings on System	Items supplied with the system	Items to be supplied by the customer
Rotary / Scroll Pump Exhaust	12.7 mm ($^1/_2$ in.) OD tail pipe	5 m (16 ft) of 12.7 mm ($^1/_2$ in.) ID x 19 mm (¾ in.) OD PVC exhaust tubing	Connection to fume hood or industrial vent
Source exhaust (nitrogen)	12 mm push-in fitting (SMC type)	6 m (19.6 ft) PTFE tube, 12 mm OD	Industrial vent
Pilot valve output (nitrogen)	4 mm push-in fitting (SMC type)	3 m (9.9 ft) PTFE tube, 4 mm OD	-
Nitrogen Supply (Gas in)	6 mm push-in fitting (SMC type)	5 m (16 ft) PTFE tube, 6 mm OD	Nitrogen supply, regulated to 7 bar (100 psi) via a 6 mm connector
Collision Gas Supply	$^1/_8$ in. stainless steel Swagelok	3 m (9.9 ft) of $^1/_8$ inch (3 mm) OD medical grade stainless steel tubing	Connection to high purity argon supply regulated to 0.5 bar (7 psi) max

Xevo G2 QTof Site Preparation Checklist

This checklist must be completed and returned to Waters when all the amenities are available.

Note: If any items are on order, please indicate this on the checklist and include the anticipated arrival date.

Note: It is the customer's responsibility to ensure that all the correct laboratory supplies are present. If you need any additional information or have difficulties acquiring parts or samples, please contact your local Waters Sales representative.

Access (see page 5)
The instrument is located on the ground floor/basement/___ floor (delete as appropriate) ..... ❑

All elevators, staircases, corridors and doorways through which the instrument must pass are adequate to allow easy access to the laboratory ..... ❑

Lifting Equipment (see page 6)
Suitable equipment is available to lift the instrument onto the laboratory bench ..... ❑

Bench/Floor Space (see page 7)
Adequate bench or floor space is available for the system ..... ❑

Connections INSIGHT® Installation Requirements (see page 9)
If you are planning to install Waters Connections INSIGHT software, an Internet connection is available ..... ❑

Power Supply (see page 10)
An appropriate number of outlets are available and they meet the stipulated power requirements .. ❑

Positioning / Ventilation (see page 15)
There is no direct air conditioning flow onto the instrument ..... ❑

Temperature (see page 15)
The room temperature is as specified in this document ..... ❑

Humidity (see page 15)
The humidity is as specified in this document ..... ❑

Altitude (see page 15)
The instrument will be operated below 2000 m (6500 ft) ..... ❑

Floor Vibration (see page 16)
The site is free from known vibration ..... ❑

Magnetic Fields (see page 16)
The site is free from magnetic fields of greater than 10 Gauss ..... ❑

Radio Emissions (see page 16)
The RF field strength is less than 1 V/m ..... ❑

Gases and Regulators (see page 16)

Dry, oil-free nitrogen ≥95% purity is available supplied at 6 to 7 bar (90 to 100 psi) with a 6 mm fitting ..... ❑

High purity ≥99.999% nitrogen gas is available when APGC source is supplied ..... ❑

High purity ≥99.997% argon gas regulated at 0.5 bar (7 psi) is available with a 3 mm (⅛ in.) adaptor ..... ❑

Rotary / Scroll Pump Exhaust (see page 17)
A suitable outlet is available for the rotary/scroll pump exhaust ..... ❑

Source Exhaust (see page 18)
A separate exhaust, 2 mbar (0.03 psi) below atmospheric pressure is available ..... ❑

Solvent Delivery System (see page 18)

Make and model of system to be used:

Make _____

Model _____

Flow rate capability of the system _____

Delivery system is already on site and commissioned ..... ❑

or

Delivery system is scheduled to be commissioned on: _____

Ancillary Equipment

If you plan to use any other equipment with the system (e.g. Gilson Autosampler; UV Detector), please give details below.

Make / Type	Model	Already commissioned	To be commissioned on

Test Samples (see page 19)
All samples required for the installation are available ..... ❑

Solvents / Reagents (see page 20)
Solvents are available ..... ❑

Sample Preparation Equipment (see page 20)
Sample preparation equipment, as specified in this document, is available ..... ❑

Cleaning (see page 21)
An ultrasonic bath is available ..... ❑

Vessels for cleaning components are available ..... ❑

I confirm all supplies are now available and all specified environmental conditions have been met*.

During the installation, the user intends to be available for demonstration and training by the Waters engineer:

At all times ..... ❑

Approximately _____% of the time ..... ❑

Not at all ..... ❑

During the likely period of installation, the following dates are NOT convenient:

_____

Signed: _____

***Important:** If an authorized Waters service engineer arrives on site to begin installation work and can not complete the installation due to lack of facilities (i.e. lifting equipment, power, water, test samples, laboratory readiness), costs incurred will be charged to the customer.

Please complete the following sections in block letters:

Name _____

Position _____

Organization _____

Street _____

City _____

ZIP/Postcode _____

Country _____

Telephone _____

Fax _____

E Mail _____

Important: The installation of your system cannot begin until pages 22 through 27 of this document have been fully completed and returned to the Mass Spectrometer Sales Support Representative at your local Waters office.

Applications Survey

As part of our commitment to provide greater customer service, we have found it necessary to obtain a little more information concerning our user base.

We would be grateful if you could take the time to complete the following questions to provide us with some information about how the instrument will be used.

This information will enable us to inform you of relevant current application notes and seminars and allows us to identify common interest groups so that we can promote cross transfer of information between customers.

What is your scientific field?
(e.g. pharmaceutical, environmental, general, etc.)

_____

_____

Which classes of compounds will be analyzed?
(e.g. carbohydrate, peptides, pesticides, etc.)

_____

_____

What is your application area?
(e.g. quantitation, purity analysis, structural determination, etc.)

_____

_____

Our sales team often requires reference sites for specific applications.
Would you be willing to be used as a contact reference site for prospective customers?

_____

_____